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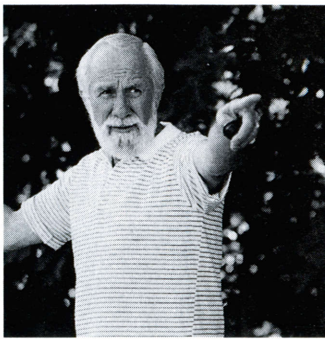
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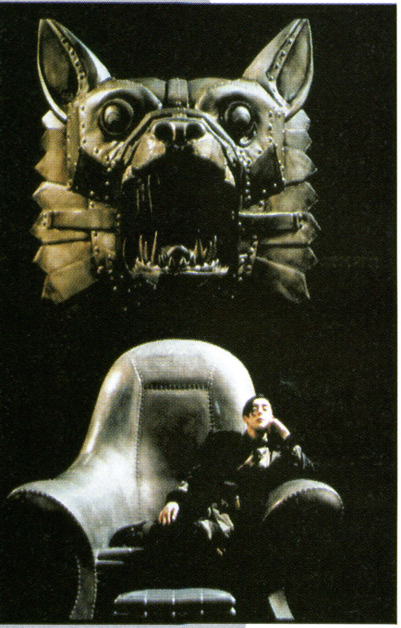
On Our Cover: The newly crowned emperor of Rome, Saturninus (Alan Cumming), reclines on his throne while scheming to destroy his enemies in *Titus,* directed by Julie Taymor and photographed by Luciano Tovoli, ASC, AIC (photo courtesy of Fox Searchlight).

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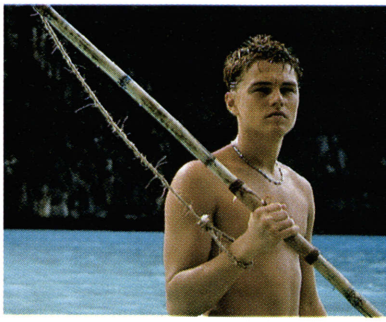
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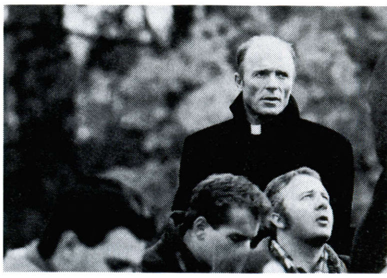
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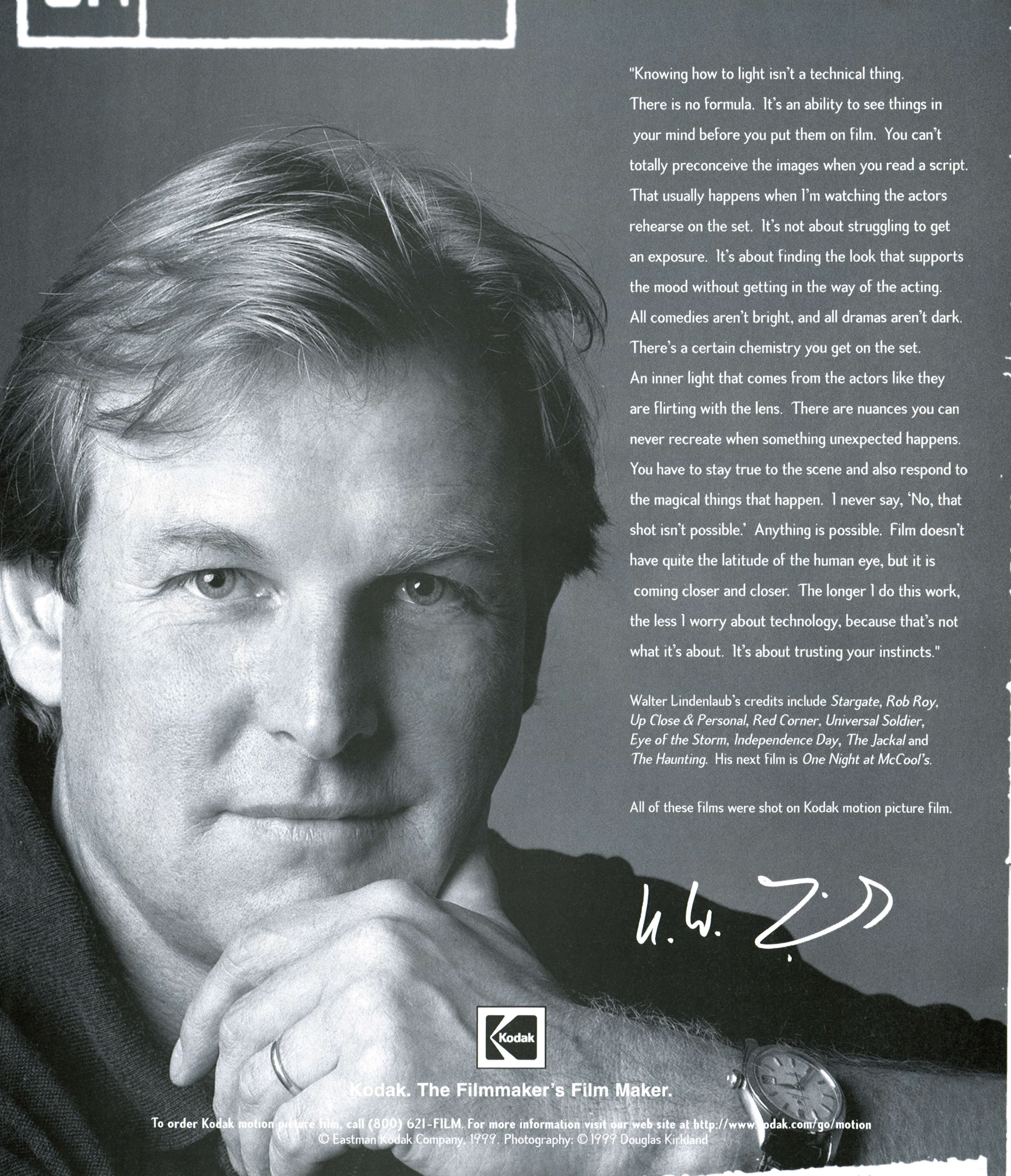
ON FILM

KARL WALTER LINDENLAUB, ASC, BVK



"Knowing how to light isn't a technical thing. There is no formula. It's an ability to see things in your mind before you put them on film. You can't totally preconceive the images when you read a script. That usually happens when I'm watching the actors rehearse on the set. It's not about struggling to get an exposure. It's about finding the look that supports the mood without getting in the way of the acting. All comedies aren't bright, and all dramas aren't dark. There's a certain chemistry you get on the set. An inner light that comes from the actors like they are flirting with the lens. There are nuances you can never recreate when something unexpected happens. You have to stay true to the scene and also respond to the magical things that happen. I never say, 'No, that shot isn't possible.' Anything is possible. Film doesn't have quite the latitude of the human eye, but it is coming closer and closer. The longer I do this work, the less I worry about technology, because that's not what it's about. It's about trusting your instincts."

Walter Lindenlaub's credits include *Stargate, Rob Roy, Up Close & Personal, Red Corner, Universal Soldier, Eye of the Storm, Independence Day, The Jackal* and *The Haunting*. His next film is *One Night at McCool's*.

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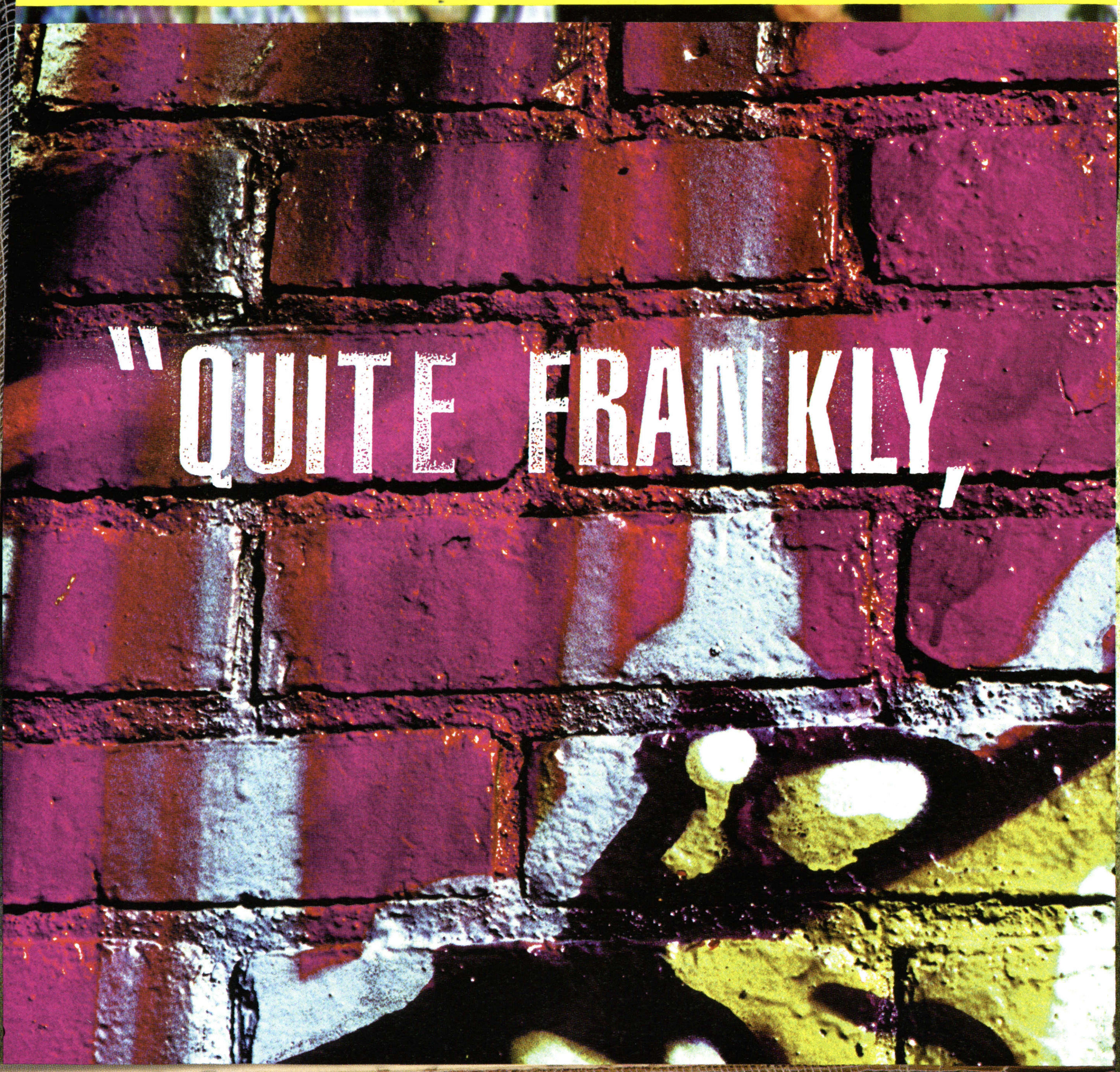
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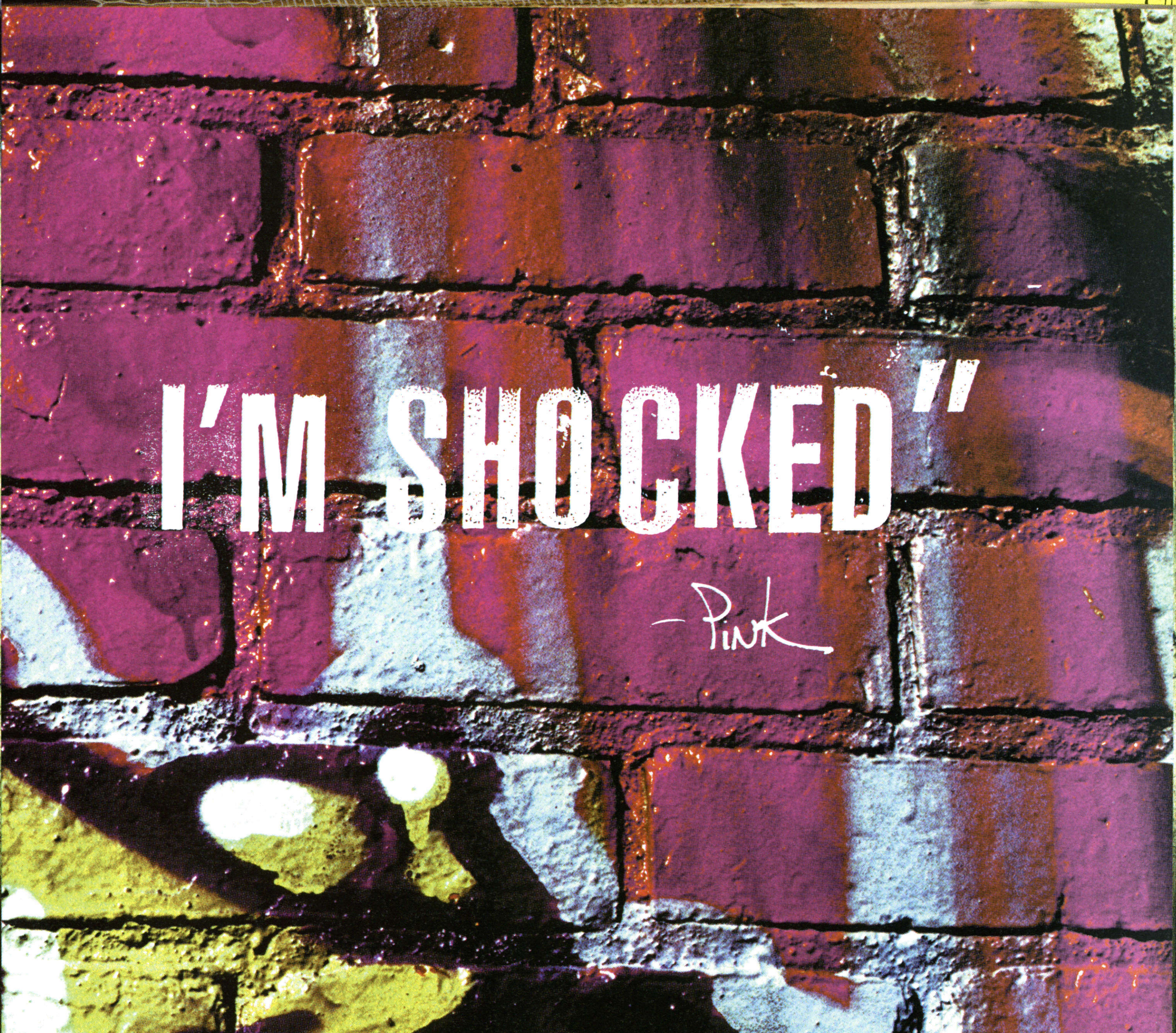

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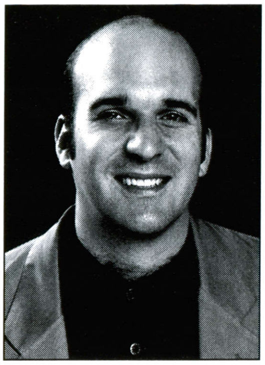

Location-based shooting can be both a blessing and a curse. One one hand, a real setting can provide a film with the kind of realism or authenticity that's nearly impossible to reproduce on a soundstage. On the other, filmmakers who opt to take their show on the road soon find themselves confronting an array of variables, including space limitations (inside), unpredictable weather conditions (outside), and all manner of unforeseen logistical difficulties (everywhere).

This month's issue of *AC* surveys a number of pictures that used real locations to enhance their narratives. Our cover project, *Titus,* effectively combines stagebound interiors with footage shot in both Italy and Croatia. Veteran cinematographer Luciano Tovoli, ASC, AIC ("A Timeless Tale of Revenge," page 52) helped bring to life a stylized world that the film's director, Julie Taymor, had previously envisioned in her bold stage production of Shakespeare's *Titus Andronicus* ("From Stage to Screen," page 62).

Locations also played a significant role in Danny Boyle's *The Beach* ("Paradise Lost," page 74), shot by Darius Khondji, ASC, AFC; Agnieszka Holland's *The Third Miracle* ("Saints Above," page 88), shot by Jerzy Zielinski; Jane Campion's *Holy Smoke* (Production Slate, page 22), photographed by Dion Beebe; and Nelson McCormick's *Operation: Sandman* (Production Slate, page 26), shot by Larry Blanford.

Although all of these picture were shot in familiar formats, several new systems offer the promise of a future in which the look of projected film can be improved — *without* the help of digital technology ("Inventive New Options for Film," page 96). Writers Douglas Bankston and Jay Holben take an in-depth look at three of these intriguing alternatives: MaxiVision, MultiVision 235 and Univisium.

This month's issue also presents a new monthly column, DVD Playback, and a salute to ace cameraman and former ASC president William Fraker, whose stellar body of work has earned him the Society's 1999 Lifetime Achievement Award. Our illuminating piece on the great cinematographer ("A Sure Hand at the Camera," page 38) was penned by Senior Editor David Williams, who, sadly, is leaving the magazine after 4 ½ years of truly outstanding work. Needless to say, Dave's monthly contributions will be sorely missed, but he's already assured us that he will continue to pen the occasional piece on cinematography if his new bosses at *The Hollywood Reporter* (where he will serve as a Special Issues editor) don't work him too hard. I'm sure I speak for the entire staff of the magazine and the ASC in wishing our departing friend and colleague the best of luck and a very bright future.

Sincerely,

Stephen Pizzello
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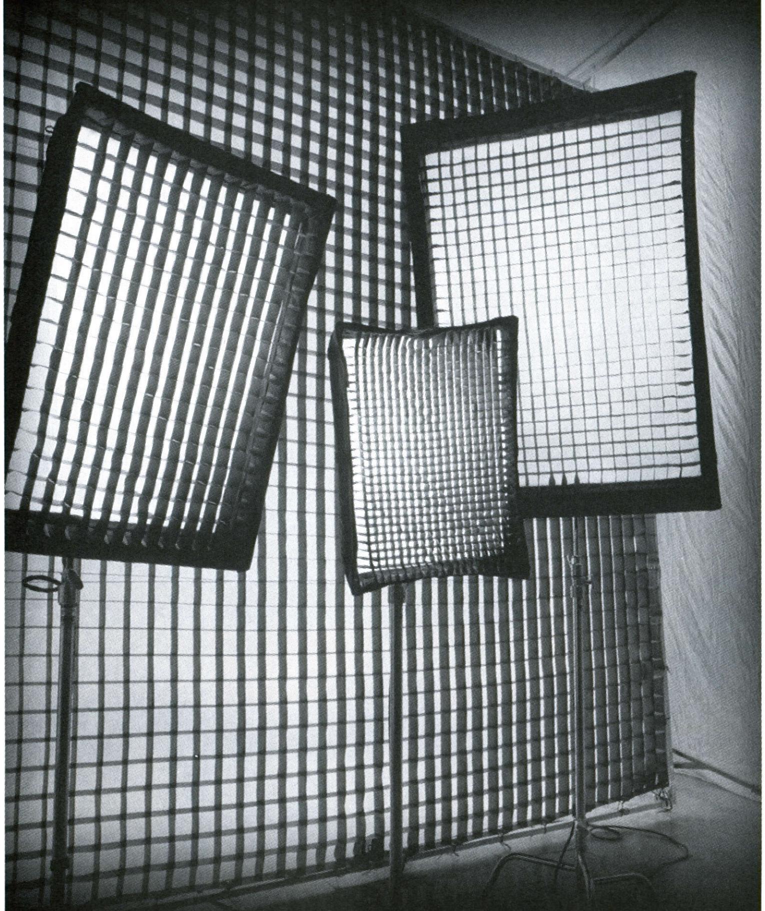

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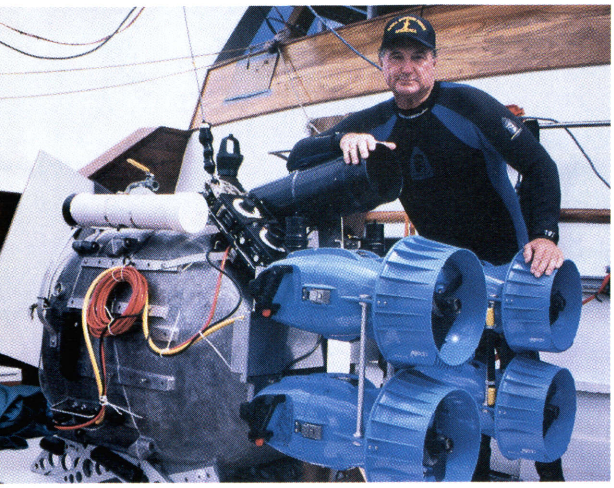
Beneath the Surface of *Galapagos*

by David E. Williams



Al Giddings proudly displays the massive self-propelled underwater camera housing he and his team developed for the *Galapagos* shoot.

The Galapagos archipelago off the coast of Ecuador thrives on its isolation, which is fiercely protected by both its remote geographic location and scientific organizations trying to preserve the islands' singular and fragile ecosystem. Made famous by evolutionist Charles Darwin in his books *Voyage of the Beagle* and *The Origin of Species*, these tiny specks of volcanic rock and their unique inhabitants are the subject of the recent Smithsonian Institute/Imax Corporation production *Galapagos*.

Produced and directed by Al Giddings and David Clark, this 15-perf/70mm 3-D documentary trails a scientific team led by Dr. Carole Baldwin of the Smithsonian's National Museum of Natural History. Exploring the islets and the surrounding waters, these experts study a variety of aboriginal fauna, including the region's iconic marine iguanas and giant tortoises, as well as many previously unknown (and downright alien) denizens of the deep.

Giddings and Clark had collaborated before on the 2-D Imax film *Whales,* and previously visited the subject of this new film while making the hit Discovery Channel documentary *Galapagos: Beyond Darwin.*

Topside 15-perf/65mm 3-D camerawork was handled by Andrew Kitzanuk, CSC and Reed Smoot, while Giddings, one of the world's foremost underwater cinematographers, supervised all of the sequences shot beneath the waves. It is in these scenes that the decision to shoot with the cumbersome format really pays off, as schools of barracuda, frolicking seals, and packs of hammerhead sharks swim by in spectacular fashion, allowing the audience to join them below the Pacific waves without getting wet.

Giddings has brought this exhilarating experience to the screen throughout his 30-year career of underwater work as both a cameraman and director, on numerous documentaries and such Hollywood hits as *The Deep* (see *AC* Mar. 1977), *For Your Eyes Only* (*AC* Aug. '81), *The Abyss* and *Titanic.*

Preparations for *Galapagos* began months before the shoot, with Giddings assembling an underwater system for a Imax 2-D back-up camera at his studio complex near Bozeman, Montana (which features AutoCAD design capabilities and a complete fabrication facility). Though Giddings has extensive experience in constructing such housings, the 3-D unit needed for *Galapagos* had very specific demands. "The 3-D camera weighs about 240 pounds, and because it's so damn tall, the housing had to be massive," Giddings explains. "Of course, the camera also has two lenses instead of one, so the optical viewfinder had to be modified. We used both a flat port and a 500-pound, curved dome port — the latter for a super-wide 30mm lens, the equivalent of a 180-degree lens in 35mm production. We had flotation and variable ballast systems that could be flooded or voided with air from a regulator, but the complete unit weighed 1,700 pounds fully loaded, and operating it was akin to swimming around with a refrigerator."

The Imax housing was rated for use down to 200', and featured a video viewfinder system. Giddings notes, "There were actually two viewfinders. One had a 3" high-resolution monitor that I designed with 10x magnification, which gives you a view similar to what you'd get through an Arri-35 finder. The 3" monitor was a bit small, though, so I machined a second, larger housing around a Panasonic 5" monitor, using glass diopters to again get 10x magnification of the image. That was a tremendous relief to my eye, and even from a foot back I could easily see focus and every nuance of the frame."

Giddings's experience in shooting with 2-D Imax cameras "was hardly a primer for what was planned. Early 3-D tests were done in a swimming pool in Toronto. When we got the thing in the water, I could see that it could only be handled by standing on the bottom and walking the unit though a shot. Also, the mass of the unit made it extremely unwieldy. If I was walking forward at a good pace and had to turn around, it was a 30-second commitment, making it hard to take advantage of certain moments while underwater." During most dives, Giddings wore 50 pounds of weight to give him a fighting chance while he was wrangling the massive system.

Giddings also found that it would take two or three assistants almost an hour to open the housing and reload the camera, and seven or eight more crew members were required to launch it. "That made me rethink my timing and approach to the shoot," he says. "This was certainly not a 'quick-draw' system. The damn format is so enormous and expensive to run — a full 2,500' nine-minute load costs $10,000 in stock, processing and printing. Nine minutes is

Photos courtesy Al Giddings and Mandalay Entertainment Arts.

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Giddings takes flight. While diving, he used a full-face mask with a wireless communication system, allowing him to simultaneously talk to topside personnel, fellow divers, and the crew inside the *Sea-Link II*. "Essentially, I'd be talking constantly through each shot, directing the action and the lighting at the same time," Giddings says. "It also helped that the *Sea-Link* had on-board HMI lights. The audience really won't be able to tell what was 'practical' lighting and what was supplemental. However, we tried to keep the lighting moody and not 'overlit.'"

actually a hell of a lot of shooting time, so that wasn't the issue, but the recovery, reloading and relaunching procedure was an important consideration in a day's plan. If I was into something hot, the assistants turned the unit around as quickly as possible, but I wouldn't roll unless there was something really worth shooting."

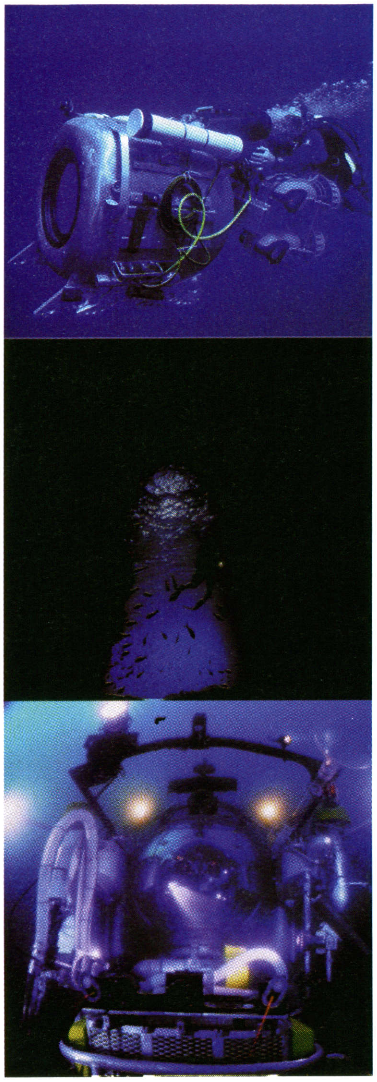
Several of the lenses did not allow Giddings to change the aperture while underwater, requiring him to dive, take readings, and then set the stop before sealing the housing and launching the camera — while hoping that the light situation would not change in the meantime.

Camera-to-subject distance was also a factor while shooting, as the 3-D effect works best on subjects within 20'. In fact, because of the altitude, several aerial shots were filmed with in 2-D, with the footage later duplicated for the second image.

As they had on the earlier Discovery Channel *Galapagos* project, Giddings and Clark employed the 225' *Seward Johnson* research ship and its 14-ton *Sea-Link II* submersible for deep-water work on the Smithsonian/Imax *Galapagos* film. In these scenes, Dr. Baldwin and pilot Don Liberatore used the *Sea-Link II* to gather specimens, employing a variety of robotic arms, a laser rangefinder, and vacuum-like tubes that literally *suck* soon-to-be-studied creatures into onboard collection tanks. "The *Seward Johnson* is a fantastic ship," Giddings attests, adding that the ship held a complete camera repair facility, support gear and dive team, plus Imax specialists.

"The *Sea-Link* has a 5"-thick Plexiglass front sphere, a 3,000' capability, holds four people, and the forward compartment has unlimited visibility. It's a very sexy machine that does very provocative work. There were plenty of dramatic visuals to be found in both the undersea equipment and the work that the scientists were doing.

"However, the drama behind the scenes was controlling the camera, along with the normal concerns of shooting underwater, which include dealing



with currents, decompression, HMI lighting, a tethered generator, and communications gear. *Galapagos* was definitely a project that was 10 percent inspiration and 90 percent perspiration.

"The Imax format really sucks up the light," Giddings adds. "For the optimum 3-D effect, they recommend that you carry an f11, which is a difficult stop to carry underwater." To help achieve this, he shot exclusively with Kodak's 65mm version of their Vision 500T stock, "which really helped because the waters off Galapagos are not crystal-clear. It wasn't like shooting on a tropical reef; there's a wonderful moodiness to the place that we tried to retain."

The exterior scenes depicting Dr. Baldwin and the team working aboard the *Sea-Link II* were shot at depths of about 100', mostly at night. Giddings was accompanied by fellow divers wielding 1.2K HMI lamps powered by topside generators. "This lighting was similar to the system we'd used on *The Abyss*. We'd fade the lights up by hand, or pan them in to fill as the sub approached with its camera lights on."

The initial month-long *Galapagos* shoot took place in the summer of 1998, during which time El Niño weather conditions adversely affected both flora and fauna. The filmmakers soon determined that from a natural-history standpoint, it was important to suspend filming and return when conditions improved.

From his standpoint, Giddings felt that the physical limitations of operating the 3-D camera system had prevented him from using the format to its fullest extent. During the layover, he engineered a self-contained propulsion system that could be attached to the back of the housing, allowing Giddings and the immense camera unit to literally fly underwater. "During our return trip to Galapagos [in February of 1999], the propulsion unit transformed the housing from something that was very difficult to control into a real ballerina," he notes. "It was bigger and more complicated to operate, but we could launch the camera and power pack and I could be off on my own a shoot effectively for an hour, covering a mile or more of the sea floor."

This also allowed Giddings to fundamentally alter the nature of his camerawork in *Galapagos* from that of "observer" to "participant," as he and the camera could maneuver with and pursue most waterborne subjects. (For a subsequent Discovery Channel project, he built a protective cage around the unit, allowing him to fly with sharks in the open ocean.)

Giddings concludes, "I'm looking forward to my next film in the 3-D Imax format, because I'm no longer shackled by the system — especially now that I have the ability to 'fly the unit.' We accomplished a lot on *Galapagos* with our new powered underwater system. I'm very pleased with the results, and ready to expand with other underwater possibilities!" ■

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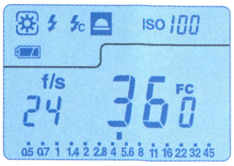
Auto-illuminated LCD displays specialized Cine functions. These are some examples: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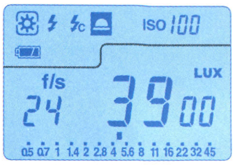
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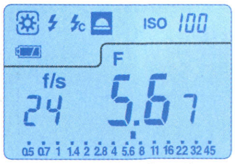
Lux + Shutter Speeds F.P.S. + f/stop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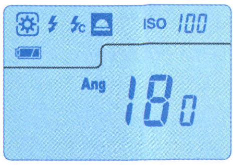
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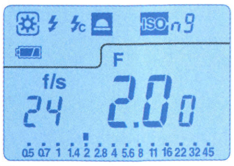
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Filter Compensation

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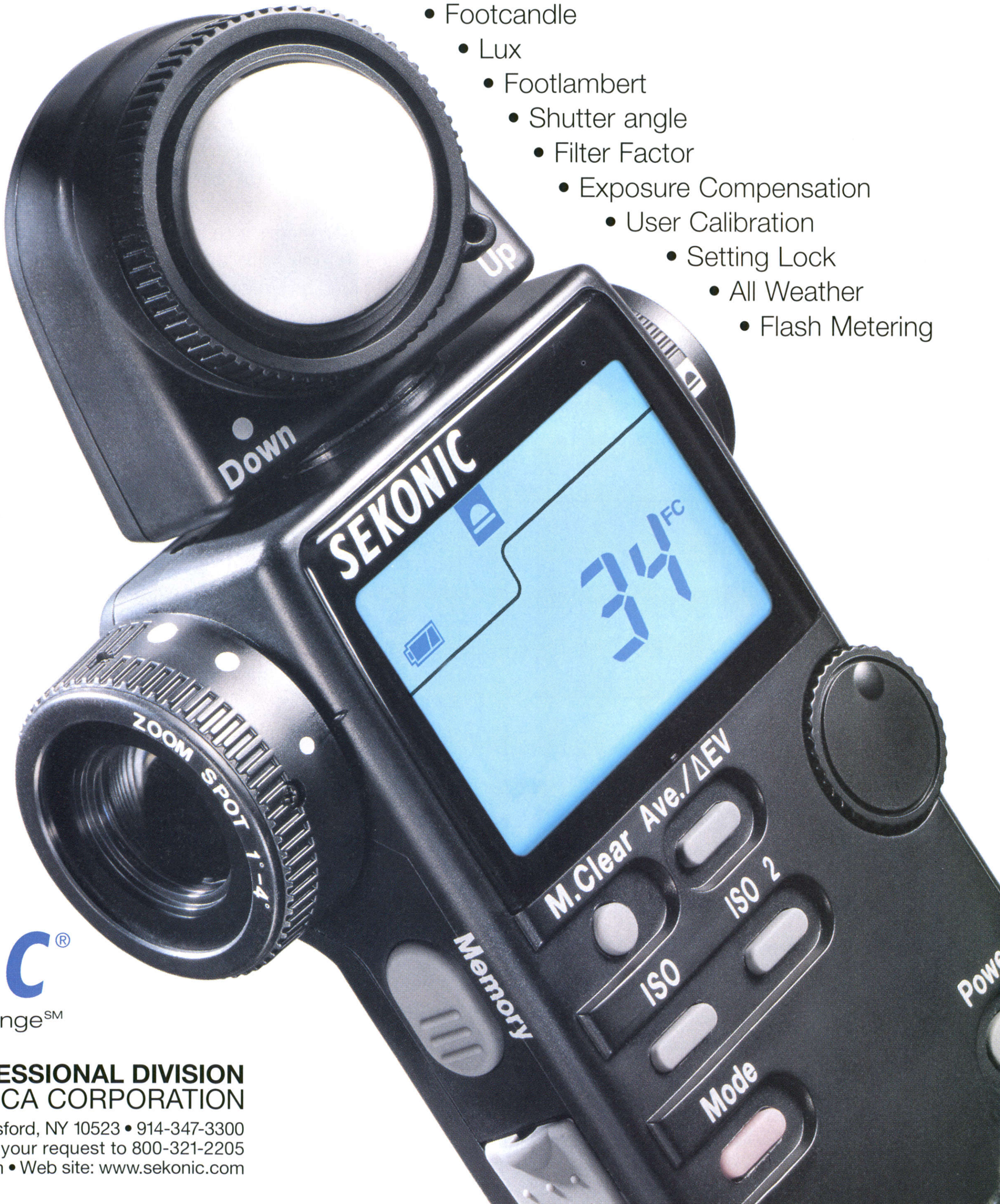
- Setting Lock
- All Weather
- Flash Metering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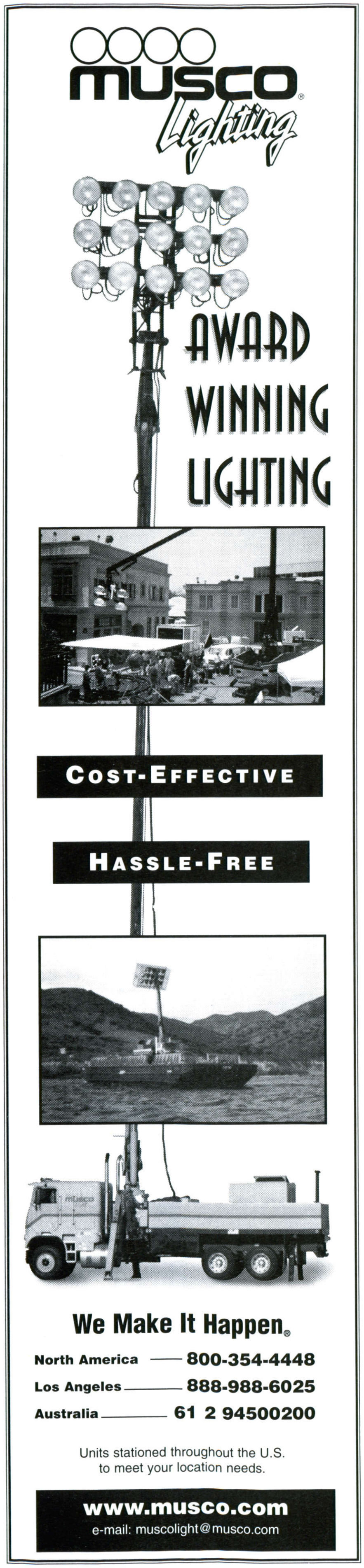
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DVD Playback

by Chris Pizzello

Halloween
Anchor Bay
Limited Edition, $44.98
Standard, $30

Until now, fright fans unable to pony up the cash for the pricy (and since-discontinued) Criterion Collection widescreen laserdisc release of John Carpenter's 1978 classic *Halloween* have had to endure (excuse the forthcoming pun) hacked-up, pan-and-scan versions of the film. Thus, viewing this classic chiller in its original 2.35:1 aspect ratio on this pristine Anchor Bay DVD is both a jarring and truly satisfying experience for those who wish to properly scrutinize the film's precise, Hitchcockian widescreen compositions and stalking Steadicam shots.

It's safe to say that *Halloween,* which was expertly photographed by ace cinematographer Dean Cundey, ASC, has never looked better in any home-video incarnation. The widescreen anamorphic transfer is amazingly sharp and almost completely free of the nicks and scratches that are usually unavoidable on prints dating from the 1970s or earlier. The picture's blacks are industrial-strength, and colors pop — particularly Cundey's eerie blue backlight and the most satanic orange jack-o'-lanterns ever committed to film.

Except for the unfortunate lack of a commentary track from Carpenter (which is present on the Criterion LD), this Limited Edition disc is loaded with all of the extras a hardcore *Halloween* buff could ever crave. Included is a second disc featuring the full "television version" of the film — in widescreen, no less — for which Carpenter shot four extra scenes two years after the original release to pad out a two-hour broadcast time slot. The additions are interesting but nonessential, consisting mainly of scenes in which Donald Pleasance's splendidly solemn psychiatrist warns some hilariously skeptical state hospital workers about Michael Myers's impending mayhem. More illuminating is the 30-minute *Halloween Unmasked* documentary, in which the filmmakers reveal some surprising influences: *Touch of Evil* (which inspired *Halloween*'s bravura opening murder sequence, executed in one continuous shot) and *Chinatown* (a veritable primer on creating subtle visual menace).

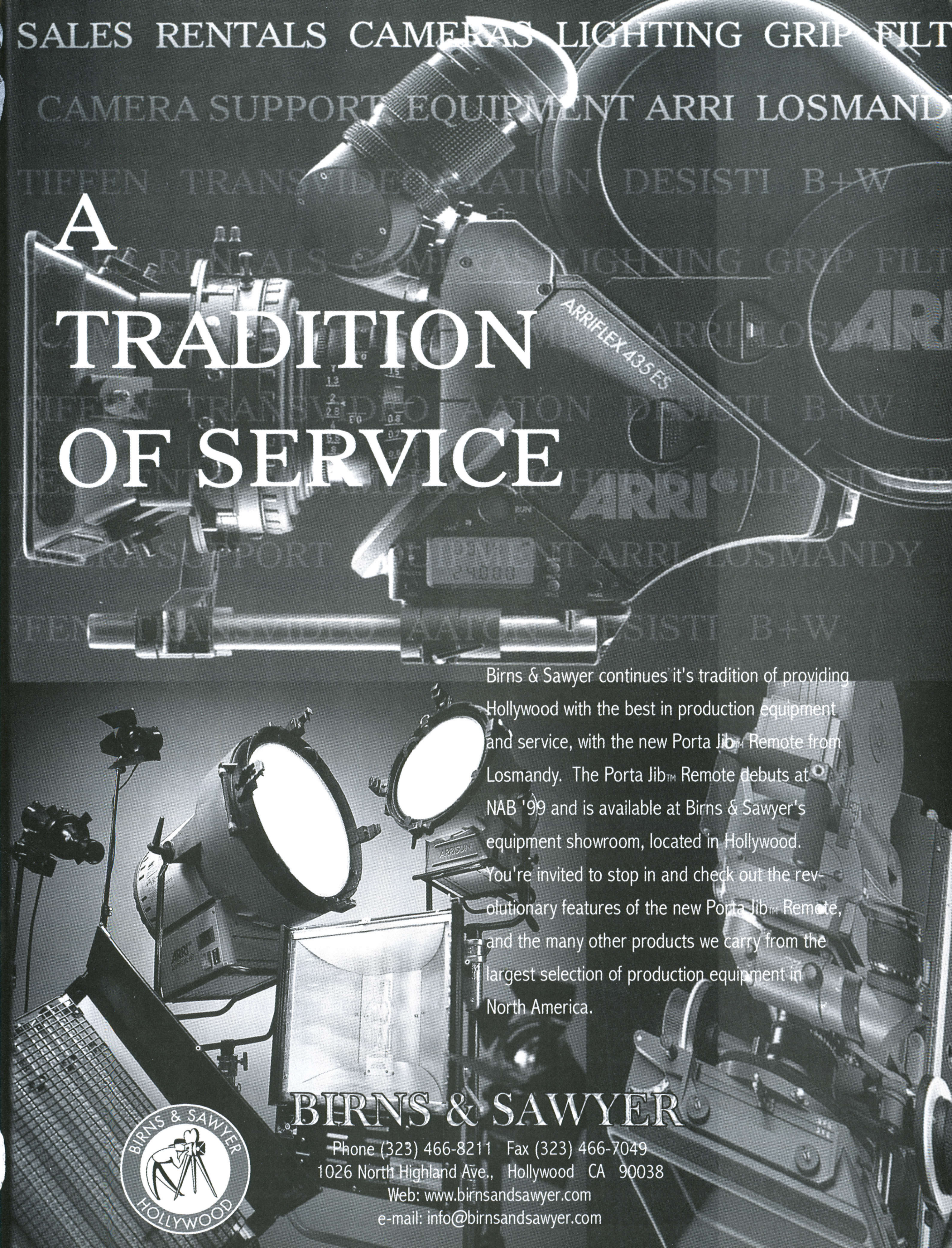
The "standard" version of the disc includes all of the extras (the documentary, behind-the-scenes still photos, trailers, and TV and radio spots) except the "television version" supplemental disc.

Saving Private Ryan
Special Limited Edition
DreamWorks, $34.00

Steven Spielberg's cautious entry into the DVD arena has long tormented the format's true believers. While the director has released a few titles (*1941, Amistad*) in the new format, DVD addicts still salivate over the prospect of cueing up deluxe collector's editions of such classics as *Jaws, Close Encounters of the Third Kind, E.T., Raiders of the Lost Ark* and *Schindler's List.*

DreamWorks' new Special Limited Edition disc of *Saving Private Ryan* heralds the filmmaker's latest foray into the DVD universe with a stunning transfer of 1998's best film (Oscars be damned). While no home viewing of *Saving Private Ryan* can equal the overwhelming barrage of sound and fury offered up on a big screen, this powerful DVD presentation comes alarmingly close to transforming the viewer's living room into a private Omaha Beach.

In short, this disc boasts a reference-quality, anamorphic widescreen DVD transfer. With lacerating sharpness



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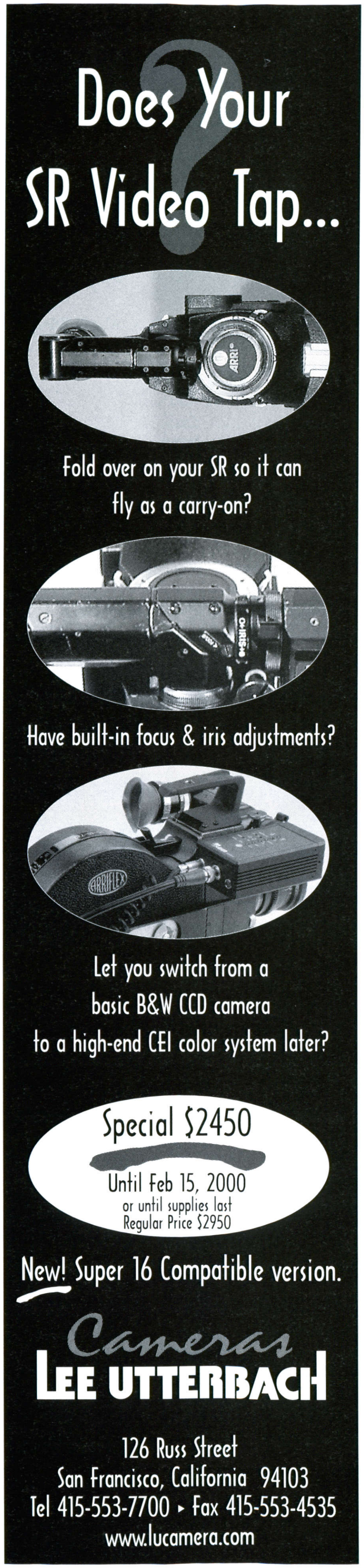

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and rich contrast, it captures every subtle nuance of Janusz Kaminski, ASC's innovative, Academy Award-winning cinematography, from the hyper-real, carefully desaturated scenes of the D-Day invasion to the classic compositions shot at the American military cemetery in Normandy. (It's said that Kaminski's use of 90- and 45- degree shutter angles — rendering ultra-detailed images — played havoc with the compression algorithm used to author this disc.)

Special mention must be made of the truly enveloping Dolby Digital 5.1 soundtrack. Even if you have just two stereo speakers working, you'll feel virtually pinned down by murderous German gunfire. The easy-to-read subtitles are also useful for those of us who had trouble discerning some of the shouted dialogue during the film's chaotic battle scenes.

The disc's extras aren't plentiful. There is no commentary track by Spielberg, but the director does weigh in with a short, classy message about why he pursued the project. Also included is a 25-minute documentary, *Into the Breach,* featuring insights from Spielberg, the cast, various World War II veterans, historian Stephen Ambrose and U.S. Marine Corps Capt. Dale Dye, who takes great relish in detailing how he transformed "soft" Hollywood actors into the battle-hardened grunts who appear onscreen. The documentary includes a fascinating glimpse at a few of Spielberg's first war movies, made when he was a teen (with his dad, Arnold, serving as the gaffer). The clips clearly demonstrate that the kid had it even back then.

Stop Making Sense

Palm Pictures, $29.95

Routinely dubbed "one of the greatest rock 'n' roll movies ever made," Jonathan Demme's 1983 film of a Talking Heads performance at Hollywood's Pantages Theater still lives up to the hype. It's difficult at first to discern why the seamless *Stop Making Sense* does it so much better than the rest, but a careful viewing of this exhaustive Palm Pictures release offers some clues.

For once in a concert film, the viewer isn't subjected to lame, phony audience reaction shots (until the very end of the film, when they offer a true payoff). At all times, our perspective is that of a paying audience member at the show. Demme and cinematographer Jordan Cronenweth, ASC refrained from using dizzying, MTV-style crane shots and garish zooms; the visual style of the film is virtually ego-free, tastefully balancing well-timed close-ups of the performers' expressive faces with wide views of Cronenweth's brilliant lighting design and the Heads' minimalist stage.

However, this disc's presentation of the film is far from flawless. The blacks are muddy, the picture is quite grainy (particularly during the bare-bones early numbers), and wear and tear on the source print is noticeable throughout. The sound, however, is another story, offering the options of a "feature film mix" (placing the listener right in the front row at the Pantages), a "studio mix" (the tight sound from the mixing board) or Dolby Stereo 2.0.

Where the disc truly excels is in the plethora of extra features. A commentary track features articulate insights from Demme and all four Heads (the long-bickering bandmates recorded their comments in separate studios). Fortunately, each of the five commentators' voices are distinct and easy to identify! The disc also offers three extra songs placed right after the end of the film, but one wonders why these scorching performances weren't incorporated into the main portion of the disc, as they were in previous VHS releases. Rounding out this generous package is the ever-arty Byrne's surreal interview of himself, as well as storyboard sketches, an explanation of his iconic "Big Suit," production notes and a pair of superbly edited trailers. ■

DVD submissions for possible inclusion in this column should be sent to AC in care of Executive Editor Stephen Pizzello, 1782 North Orange Drive, Hollywood, CA 90028.

Российские вертолеты
все-таки умеют летать в темноте

Вызволение тележурналистов с острова Врангеля может с

еще не вышедшему фильму

ВЧЕРА в столичный аэропорт «Внуково» прибыли участники международной арктической экспедиции, которых накануне чукотским спасателям удалось вызволить из полярного плена на острове Врангеля.

NHK team rescued from Arctic

MOSCOW (Kyodo) A three member team from Japan

Broadcasting Corp (NHK)

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vel to Moscow on Wednesday where

go a health checkup, the bureau said.

oned NHK's Moscow bureau to report

g in Pevek.

n the island for about three months.

and in early September to film a doc-

Last bid to rescue
Arctic film crew

by SUE MASTERMAN

rescuers were stranded in a howling blizzard at minus twenty degrees. Rebecca Scott, the partner of Australian film maker Rory McGuinness, told a Melbourne radio station: "I think this week is probably the last window of

Making news
making news

Arrow 50

"The Arrow 50 retained the subtlety of control on the drag settings and kept functioning smoothly in the worst conditions".

Cinematographer Rory McGuinness made news recently when he was stranded for six weeks on an island in the remote Siberian arctic. While awaiting rescuers, Rory kept shooting the polar bear documentary in conditions that made incredible demands on crew and equipment.

"We had minus 25 to 30 Celsius, plus windchill, but while we had filmstock and bears we just kept shooting. It soon sorted out the gear. Some of it froze solid, while other things just kept going. The Arrow 50 retained the subtlety of control on the drag settings and kept functioning smoothly in the worst conditions".

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Clairmont's Unique Squishy Lens™...

Special effects are an increasingly important part of many theatrical releases, television programs and commercials. Audiences have even come to expect them.

Accordingly, growing numbers of post production houses are being called upon to transform ideas into "reality" through costly digital technology. Spending from $10,000 to $50,000 for a single scene is not uncommon.

Needless to say, many DPs, Directors and Producers have openly wished there were more things that could be done through the lens —and not in post.

We've listened...and done something about it! Clairmont Camera's Special Projects R&D team has created the unique new Squishy Lens™ to provide cinematographers with an arsenal of interesting effects that can be created on film. Instantly.

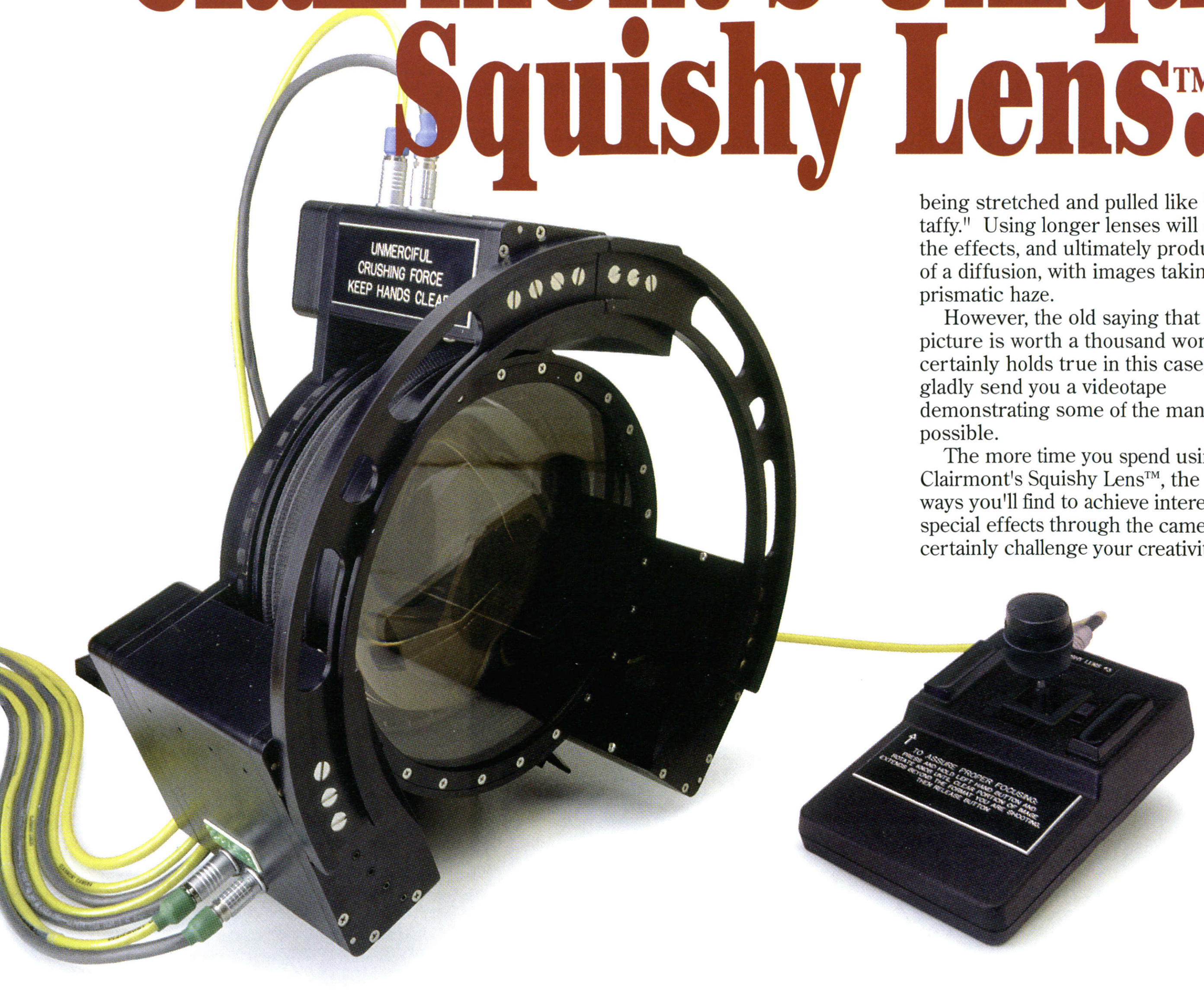
Technically speaking, Clairmont's exclusive (patent pending) Squishy Lens™ is a device that attaches in front of a taking lens (using a focal length anywhere from 14mm to 65mm — depending on the effect you're trying to achieve). It features a crystal-clear, flexible, aspheric optic, whose shape is infinitely variable. The process of making the optic element is in itself quite complex, with the proprietary material formed in a "Class 100" clean environment, using advanced laser metrology. Subsequently, the optic is "sandwiched" between two plates of optical quality polycarbonite that shape it relative to the camera operator's adjustment of triangularly positioned servo motors.

Changing the optical characteristics of the Squishy Lens™ in real time is as simple as using a "joystick" similar to a video game. And you'll have total "What You See Is What You Get" control. As an added benefit, there is no discernable light loss through the Squishy Lens™.

There are a variety of interesting effects possible with the Squishy Lens™. One is to provide a volumetric "tunnel vision" effect. When using a wide angle lens opened up to T2.0, you can have a positionable, variable clear center area, with perimeter areas of saturated colors "smearing" with other colors —as well as the ability to have an adjustable "center" of sharp focus. The sharply defined edges in the central area will produce double image halos as they extend into the smearing zone, and as you stop down the lens the smearing is diminished and you can see objects being stretched and pulled like "optical taffy." Using longer lenses will diminish the effects, and ultimately produce more of a diffusion, with images taking on a prismatic haze.

However, the old saying that "a picture is worth a thousand words" certainly holds true in this case, so we'll gladly send you a videotape demonstrating some of the many effects possible.

The more time you spend using Clairmont's Squishy Lens™, the more ways you'll find to achieve interesting special effects through the camera. It'll certainly challenge your creativity!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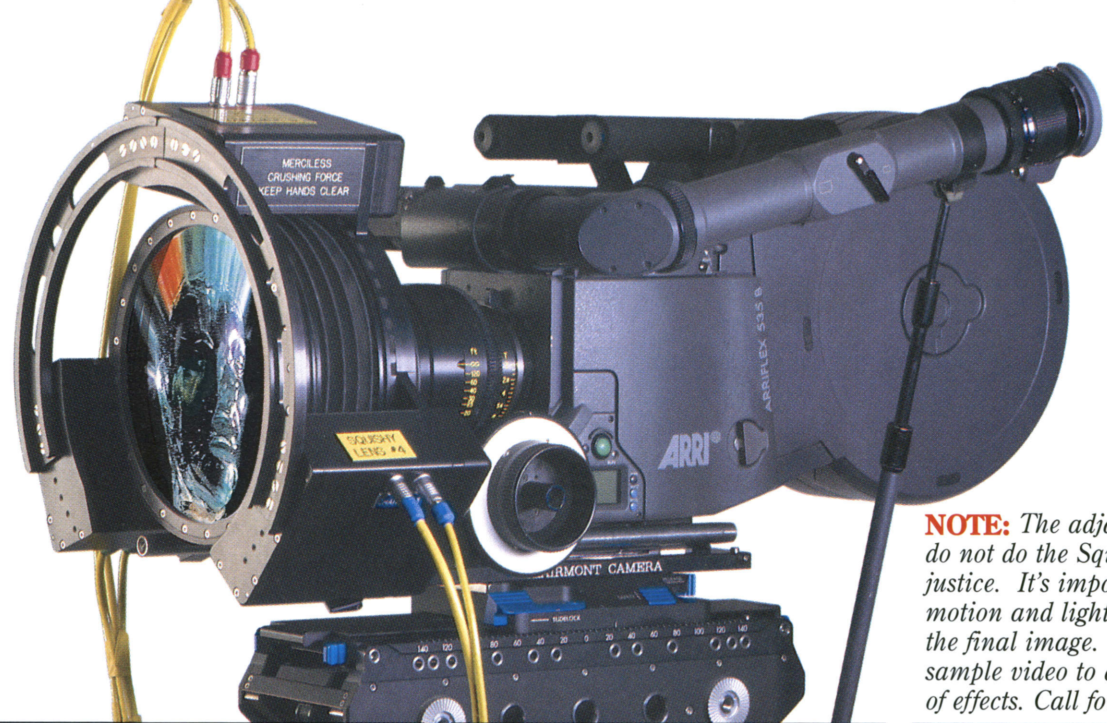
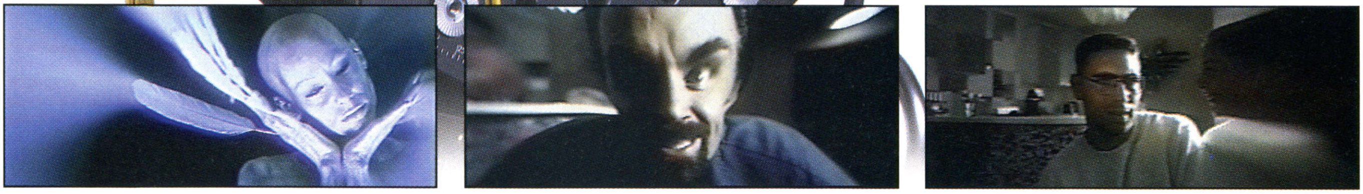


NOTE: *The adjacent frame captures do not do the Squishy Lens true justice. It's important to see how motion and lighting changes affect the final image. You MUST see the sample video to appreciate the range of effects. Call for your demo VHS.*



Putting Creativity Where It Belongs!

Squishy Lens™
DEMO

It's also important to note that when comparing the effects possible with a Squishy Lens™ to what can be achieved on a CGI digital setup, depth and perspective are critical. Because film is essentially a two-dimensional carrier of information, creating complex aspect-related effects digitally can be quite time consuming and costly. Especially when you factor in the common problem of varying interpretations. With the Squishy Lens™ you can see it before you shoot it! Obviously, the ability to do unique effects in camera during actual filming can save huge amounts of time and money.

In the final analysis the Clairmont Squishy Lens™ will make DPs, Directors and Producers happy. A true "win win" situation for everyone involved. What more could you want?

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Production Slate

compiled by David E. Williams and Douglas Bankston

P.J. (Harvey Keitel) grows closer to Ruth (Kate Winslet) during his attempt to "deprogram" her.

Desert Heat

by Jean Oppenheimer

No other filmmaker presents spiritual breakdown and psychological dysfunction quite like Jane Campion. In *Holy Smoke*, Harvey Keitel plays cult deprogrammer P.J. Waters, who heads to the Australian desert to "save" a willful young woman named Ruth (Kate Winslet). Things don't go quite planned, however, and a lovesick P.J. eventually finds himself lumbering after Ruth in a clingy red dress and cowboy boots, while the confused young heroine tries to evade him wearing a stack of books strapped to her feet. Ah, the battle of the sexes!

Campion's dark comedy plays itself out against three distinct backdrops: the exotic, vibrant streets of New Delhi; the staid, red-brick environment of suburban Sydney; and the vast wastelands of the Australian Outback. Helping the director tap the physical and emotional power of these landscapes was fast-rising Australian cinematographer Dion Beebe, ACS, whose award-winning work includes some 30 short films, nine features (including *Praise*, *Crush* and *What I Have Written*) and the documentaries *Eternity* and *One Hundred Years of Cinema*.

"The visual style of India, where the film opens, is meant to capture Ruth in an environment that she finds to be foreign, exotic, mysterious and impossible to define," Beebe explains. "In a sense, she loses herself in that world, surrenders herself to it and finds another sort of opening, a spiritual opening, through which she begins a journey to rediscover herself."

The second stop on Ruth's trek is suburban Sydney, the site of her conventional, middle-class upbringing, where cookie-cutter homes provide a haven for dysfunctional families. Trapped by her well-meaning parents and siblings, Ruth submits to a three-day deprogramming exercise staged in the third and final location: a hut in the middle of the South Australian Outback, where the standoff between Ruth and P.J. forms the core of the story.

As Campion's project came together, Panavision encouraged Beebe to road-test their new Millennium system, which had previously been used only as a second camera. It proved to be a productive tryout, partially bcause of Beebe's fondness for playing with camera speed. He declares that "being able to just punch in the numbers and go from 24 to 50 fps without having to change camera bodies was a great assistance to us, and it also helped that the unit was slightly more compact. Knowing that we'd be in India, the Australian Outback and Sydney, I wanted a flexible system that could be broken down into a handheld camera if necessary." (The show's camera package also included a G2 and a Panavision Lightweight used for Steadicam work.)

Lenses were another important consideration for Beebe, who likes working with Primos. "*Holy Smoke* was such a big location picture that I wanted to get as crisp and sharp an original negative as I could," he says. "Plus, we had planned some CGI work. The Primos have the degree of clarity I really like."

The production's first stop was New Delhi, which the filmmakers envisioned as being very dense and saturated. "We wanted to feel that Ruth was really overwhelmed by the experience and drawn into it," says Beebe.

The Indian sequences have a wonderful bleeding effect, as if they were painted with watercolors. Vibrant

Photos by Stephen Vaughn courtesy of Miramax Films.

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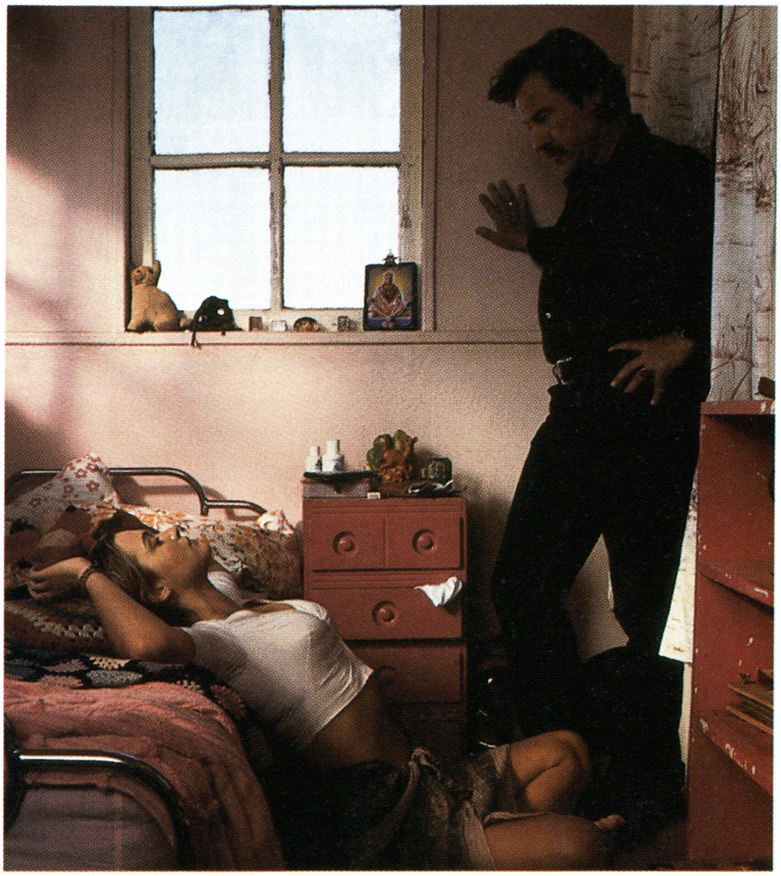

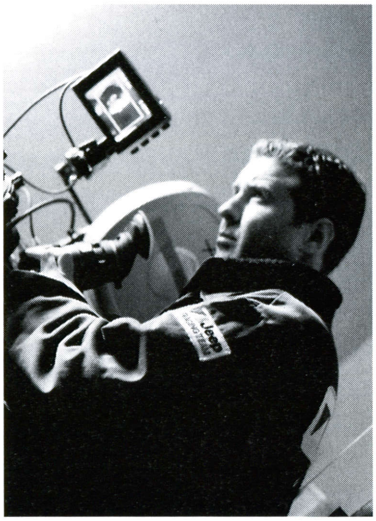

Top: P.J.finds Ruth's allure to be irresistable. Bottom: Director of photography Dion Beebe, ACS (photo by Jane Campion).

reds, greens and pinks seem to melt into one another. Beebe attributes the effect to the low light levels and low apertures at which he worked. "I like to bring the light levels down as much as I can," he reveals. "That creates a very narrow depth of field, as in the opening shot of Kate on a crowded bus. The sort of melting of texture and color into the background is created by the very soft, shallow focus that exists, and the rapid falloff of focus in the background. Those backgrounds tend to become more textural."

Whenever possible, the cameraman shot at around T2.8 or a T2.8/4 split, often using ND filters to bring his stop down to very low levels. For exterior sequences in New Delhi, he favored 75mm and 100mm lenses. (For the later Australian locations he would go substantially wider.)

Given how different India looks from the Australian sections of the picture, it is surprising to learn that Beebe shot the entire film on Kodak Vision 200T 5274. Aside from pushing the film a stop here and there, he rated all of the interior sequences at 200 ASA. Beebe gave the lab no complex processing instructions while working closely with "legendary" timer Arthur Caimbridge at Atlab in Sydney. He experimented with tobacco filters, but decided against using them. "The colors, details and textures in India were already very rich," he notes. "Using tobacco or another filter tended to bring [everything] too much into one [color] range." Instead, he stuck with 85s, 81EFs or no correction at all.

Sometimes Beebe would light exterior scenes with uncorrected tungsten lights, and then add a mix of fixtures of higher color temperatures in order to produce a cool ambience mixed in with warm tones. For an Indian street sequence and interior café scene, both shot on Fox's new soundstages in Sydney, he interspersed uncorrected fluorescents with photo-correct Kino Flos. "We hung six Wall-O-Lites on a grid for the café scenes," the cameraman details. "We then dropped cool white and green-unbalanced fluorescent tubes inside the set to serve as practicals. They mixed in with the Kino Flos to create a slightly dirty mix of color temperatures that contributed to the sense of being in India."

Because of India's intense heat, the booths and carts that line city streets are covered with awnings that only allow indirect sunlight to filter in. That was duplicated on stage for a scene in which Ruth's mother races down a narrow alley. "We used 20Ks, which added hot edges to passing traffic and pedestrians," Beebe remarks. "Above the alleyway we had maybe six 6K space lights. That created a soft ambient toplight, which suggested skylight."

After the story jumped from India to suburban Sydney, where Ruth's dysfunctional family lives, Beebe sought to lend the visuals more depth and a sharper, crisper look. He switched to wider lenses — 28mm, 35mm, sometimes even a 17.5mm — and shot at T4 and T5.6.

After a short interlude in Sydney, Ruth and P.J. find themselves in the rather intimate, even claustrophobic hut in the Outback. Campion and Beebe initially intended to dwarf the characters against the sweeping natural backdrops in order to create a sense of their insignificance within those landscapes, but they found that the characters were getting *too* lost in the vistas. "The depth of the horizon was so vast that you didn't know where to look in the frame," Beebe

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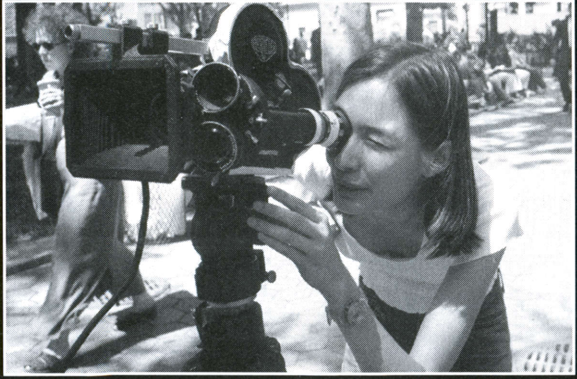

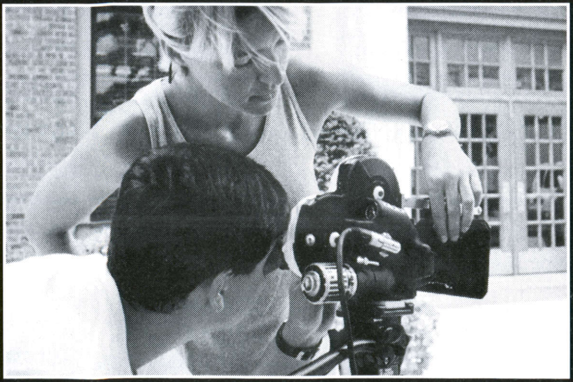

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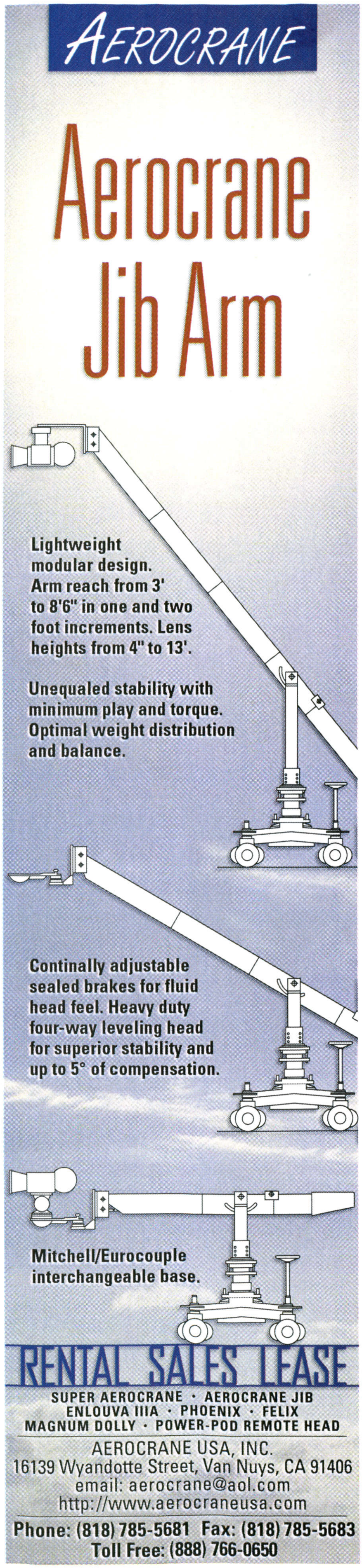

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concedes. "You'd lose focus on the characters."

He and Campion quickly changed tactics, substituting 100mm and 150mm lenses for the 28mm and 35mm they had planned to use. By minimizing the depth of field within the frame, the focus returned to the characters.

Hut interiors were shot on a soundstage in Sydney. In fact, the crew transported the actual structure used in the desert from its remote location to the stage. A combination of hung backdrops and painted cycloramas reproduced the views out of every key window of the set.

The backdrop spanned over 200 degrees and required a huge pre-lighting session. The cinematographer recalls, "We rigged more than 100 Blondes, about a dozen space lights and 10 sets of ground rows, all of which were patched through a central desk that allowed me to change my background levels when required. On the studio floor, we worked with a 20K Fresnel to get a more directional source, coupled with 10Ks, 5Ks and two 7K Xenons.

"While on location," he continues, "gaffer Paul Booth and I had tracked the path of the sun, which gave us a series of rigging points we could use to match our studio sun to the location sun. This meant that when action spilled out from the interior stage onto our actual location, the sun would not appear to swap sides or directions."

In addition to Booth, who had worked with Beebe previously, the crew consisted of grip Robbie Morgan, Steadicam operator Harry Panagiotidis and camera assistant Sally Eccelston. (Beebe served as A-camera operator.) "Working at low apertures obviously puts an incredible strain on the focus puller," the cinematographer notes. "Sally did a wonderful job. She was often chasing Kate around the room on a 100mm lens at difficult stops through very complex dialogue scenes."

The final shot in the desert (before a brief epilogue returns the action to India) is a close-up of Ruth and P.J. huddled in the back of a truck. The camera cranes up and reveals a spectacular sunset as the vehicle drives away. The "sunset" was actually added in post. "I had decided to shoot the camera move on a Libra head mounted on a 17' crane arm, rigged to a tracking vehicle," says Beebe. "This was done to assist the CGI work by keeping the movement in-camera across the horizon line to a minimum, thus allowing the effects people to create the traveling matte. Unfortunately, the Libra head did not cope with the conditions and ended up inducing additional movement. Computer effects designer Andy Brown and his team at Animal Logic in Sydney were able to stabilize the shot frame by frame. They then added the sunset, thusly salvaging our spectacular closing image."

Winslow (Persia White) and Chaney (Richard Woolson) embrace in *Operation: Sandman.*

Enter *Sandman*

by Stephanie Argy

In the UPN telefilm *Operation: Sandman,* an Army experiment goes awry and leads seven soldiers into a dangerous cyberworld. To convey their harrowing, disorienting experiences — and to disrupt reality as much as possible — cinematographer Larry Blanford mixed eight different film stocks on the shoot. "I didn't really want to be consistent, in the sense of making everything look similar," he explains. "When you go into the cyberworld, I want you to know you're there. Maybe no one will notice it except me, but

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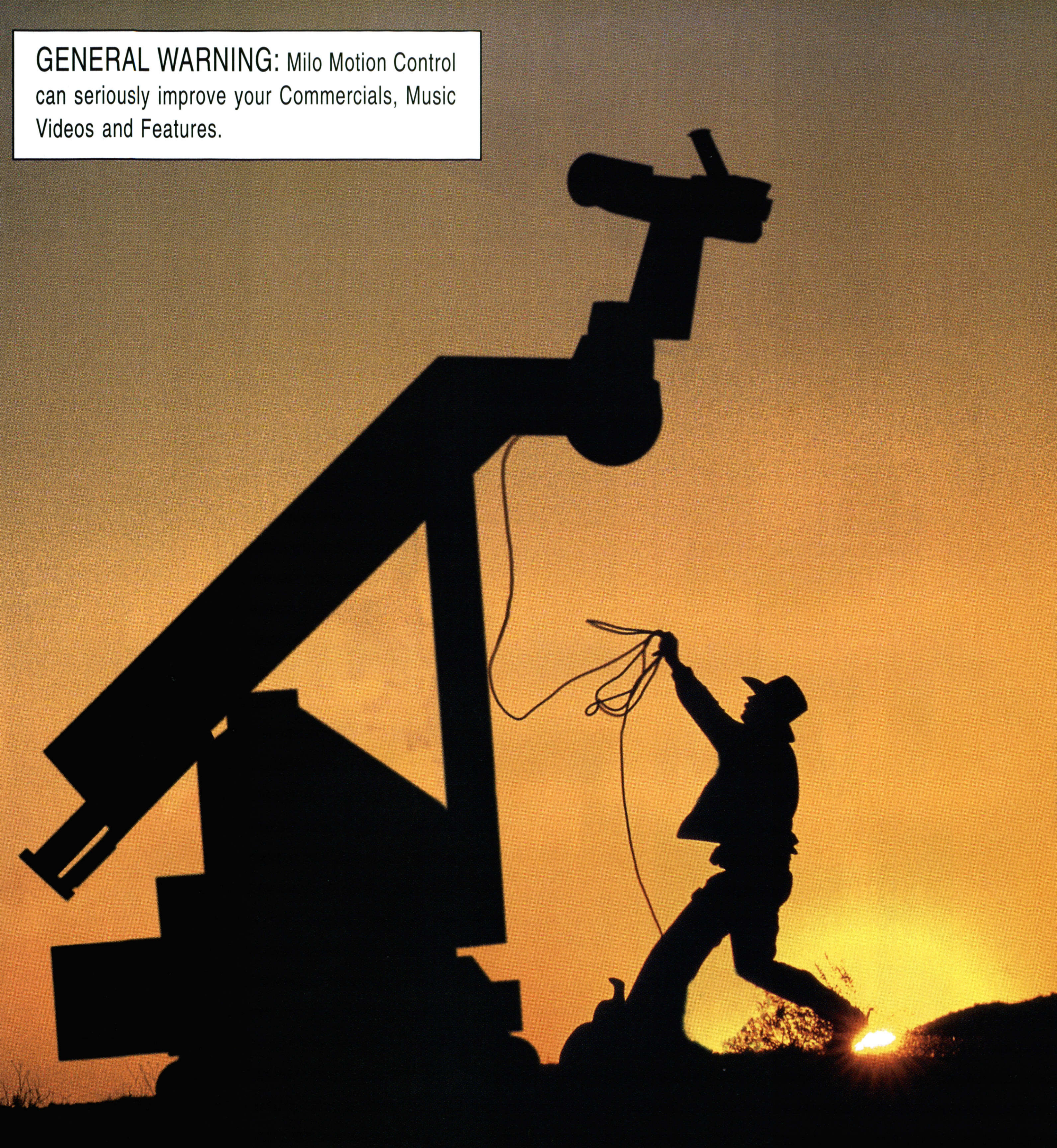

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Soldiers participating in an Army sleep-deprivation program are plunged into a dangerous cyberworld in *Operation: Sandman.*

there's a definite difference."

The soldiers' nightmare begins when they participate in an Army sleep-deprivation study designed to test a drug that allows a person to function without sleep for three weeks. The soldiers taking the drug are battle-tested on a computerized war game, which plunges them into an urban warfare zone. The troops' experiences grow increasingly life-threatening, however, and their supposedly imaginary adventures begin to produce physical evidence that the horrific events are actually happening. A Pentagon doctor is sent to investigate and eventually uncovers the truth, but not before some of the soldiers have died.

One of the reasons Blanford wanted to do *Operation: Sandman* was his long association with the director, Nelson McCormick. The two have known each other since both were in the Air Force 17 years ago. The duo had previously worked together on *Red Ribbon Blues* (1995) and *For Which He Stands* (1996).

Blanford, one of seven children, enlisted in the Air Force at the age of 18. While stationed in Greece, he saw some training films and realized he could get more out of his time in the service. "It dawned on me that someone in a uniform was traveling around the world shooting film," he says. He applied for and joined the audio-visual program.

Years later, when *Top Gun* was being made, the production needed someone who could ride in the back of an F-14 fighter plane with a handheld camera, and Blanford stepped up. After that experience, he began developing his film career on the ground, though he

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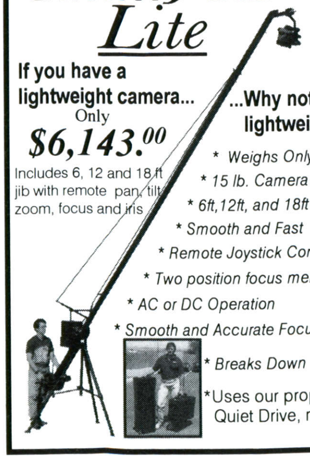

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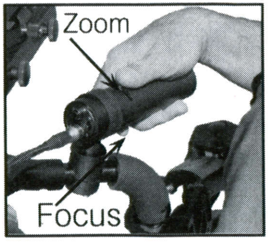

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still occasionally takes to the skies for aerial work.

Joining the production of *Sandman* also interested Blanford because it was slated to be shot in Mexico. Though he had shot in 23 countries, Blanford had never worked in Mexico, and he was anxious to do so. He found that the experience was smoothed by the film's production company, Milk and Honey Films, which has had years of experience working abroad. "Jose Ludlow, a producer with Milk and Honey, has been really supportive," says Blanford. "It's such a joy to work with someone who helps you to get what you want. They're just on top of things — everyone's in it together."

Blanford originally considered using reversal stock to capture the extreme look he wanted for the project, but then learned it would be too expensive. Instead, he was allowed to choose from the negative stocks in the Paramount inventory. "I asked them, 'Can I choose eight?'" he remembers. Ultimately, he used six different Kodak stocks and two Fuji emulsions. Though he was familiar with most of them, he was grateful for the chance to use so many all at once. "It's rare that someone actually lets you do it," he confesses.

Blanford allocated different stocks for different sequences. During the urban warfare scenes, for example, he shot with Kodak's 500 ASA EXR 5298, using entirely blue lighting with just a hint of green and yellow smoke. "The end result is an interesting green," he notes.

Other scenes were set in the desert, where the ground was a cracked combination of brown and white earth, the legacy of an abandoned mineral plant. To better show the texture of the ground, Blanford used a low-angle prism, shooting on daylight balanced 50 ASA EXR 5245 with a chocolate #1 filter. When using longer lenses on the same sequences, he switched to Vision 250D 5246 for added depth of field.

For another scene set in a swimming-pool area surrounded by gray walls, Blanford used Kodak Vision 200T 5274 to beef up the contrast. He also tried Vision 800T 5289 tungsten stock for

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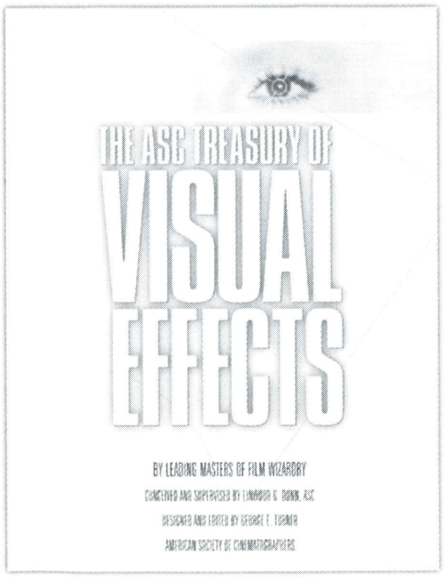
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a section of the movie in which he wanted to simulate the look of night-vision goggles. "I pushed it a stop, lit with green and added a ProMist 2 filter," he details. "I could probably have done a lot of that in post, but I wanted to do as much of it as possible on the set. I'm never sure where I'm going to be during the post stage." He adds that his only objection to the Vision 800T stock was that he was never able to make it as grainy as he wanted.

The cinematographer saved the Fuji stock for scenes where he wanted more saturated colors. In one sequence, a soldier finds his legs inexplicably paralyzed before suddenly materializing in an eerie, garish hospital of horrors populated by smoking, bloodstained doctors who come at him with saws. "I wanted to go with Fuji 250 and 500 for that sequence," says Blanford, who used swing-and-tilt lenses on the scene.

The swing-and-tilts were also used for the film's night warfare sequences. "Things aren't as clear as they would be in the real world," Blanford explains. "We wanted to distort everything more to help the audience go into the soldiers' world." The lenses weren't necessarily easy to work with, though. "They're a pain, because they're so slow — T2.8. We had to pump in a lot of light."

In addition to mixing up his stocks, lenses and lighting, Blanford also tried to underscore the soldiers' emotional condition through camera movement. In a shower-fight scene, shots of one character are chaotically handheld to convey his state of mind. The matching reverse shot of a doctor trying to calm him down are smooth and steady, shot from a dolly.

Many of the movie's sequences were photographed in an abandoned General Electric plant. "It was an incredible set to shoot," Blanford attests. "The art director built these massive sets in the plant, and there was still plenty of room to spare." The cinematographer worked with production designer Felipe Fernandez during prep to build in sconces and other light fixtures, thus sparing the crew additional setup time.

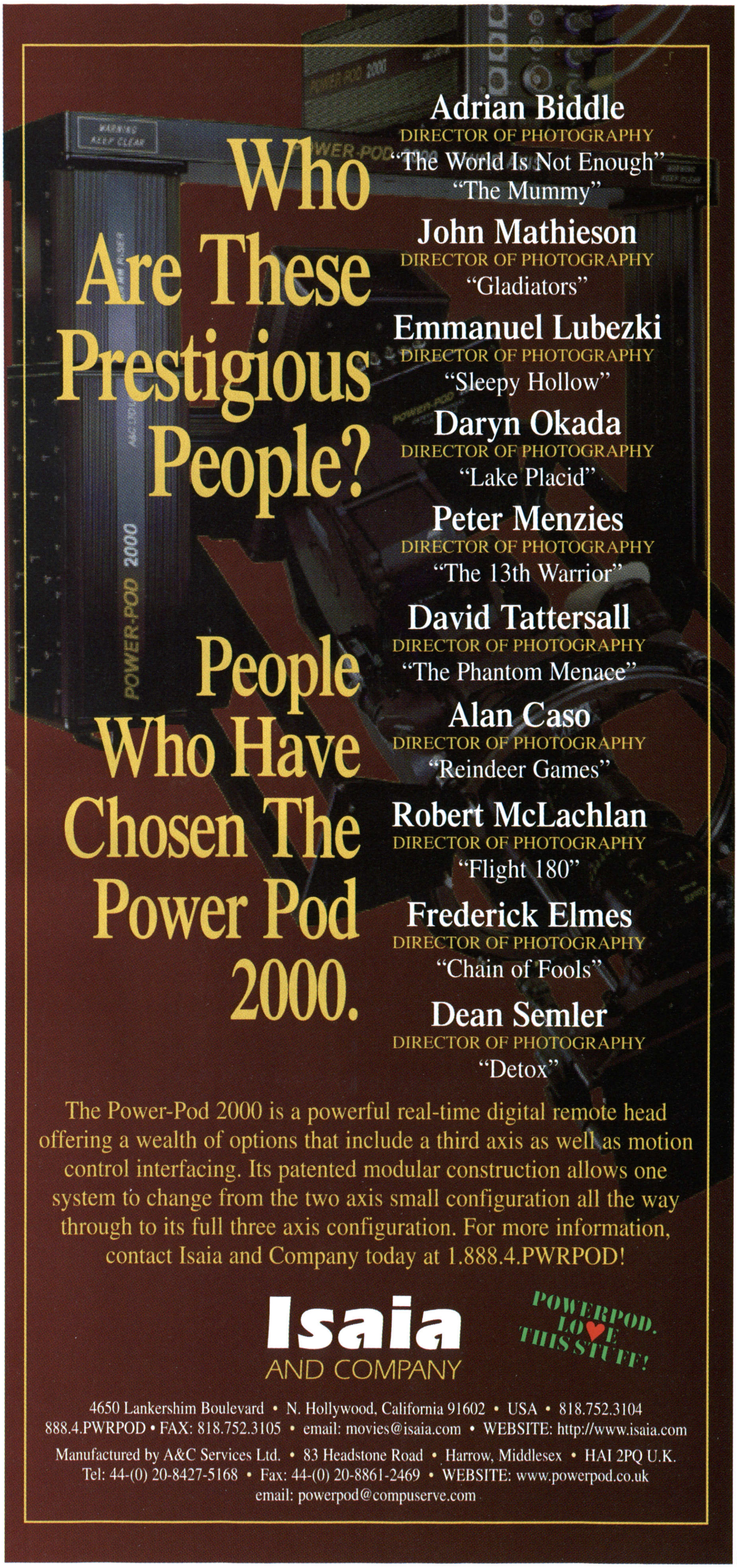
Blanford credits unit manager Marriano Carranco with finding the best gear for the camera and lighting departments. "His title is unit manager, but all he does is deal with equipment," says Blanford, who, thanks to Carranco, had a fantastic collection of tools at his disposal. In addition to a brand-new Arriflex 535 (which he used as his A-camera), Blanford had an Arriflex BLIV, a 35-III and a 2-C, as well as a set of prime lenses for each camera except the 2-C. The lighting package was equally extensive. "[I had] more firepower than I'm used to — even down to the smallest little Kino Flo, which I would put on the opposite side of a computer screen," the cinematographer remarks.

Blanford also had very large camera and lighting departments. "Down in Mexico, you're able to get more assistants," he says. "The crews have so much energy. They don't walk to a flag, they run to it." Some of the standouts on the camera crew included operator Eric Sanudo, first assistant Wilma Gomez and second assistant Antonio Urunuela.

The language barrier was a bit of a drawback, however. To make things easier, Blanford requested a list of all the relevant filmmaking terms in Spanish, then studied it in his hotel room during the evenings. Though the cameraman can now describe how he wants to light and shoot a set in 10 different languages, he still can't order salad dressing on the side in any of them.

The movie's cast included Ron Perlman, Richard Tyson, John Haymes Newton and Mary Ward. To enhance Ward's natural beauty, Blanford used "a bit softer, more wrappy light, which I blocked off of the other actors," he says. "I used soft Kino Flos for shots where she was alone, but I couldn't do that when other actors were in the scene. I let her go a bit dark and walked her into a soft light."

During one scene set in a locker room, the lighting came through a huge mass of windows, creating a look that Blanford jokingly describes as that of a "shampoo commercial." He felt that the ambience was fine given the context of



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the scene, but strove to create contrast in the next sequence by using a hard toplight. "It's inconsistent, and that's the way I wanted it," he admits. "I'm one of those no-rules guys. I say, 'If it looks great, let's shoot it.'"

To keep to the tight schedule of a television movie, Blanford had to shoot particularly fast. "There are so many different scenes in the film. On this show, I've done 47 setups and not finished the day," he confesses, adding that even the film's tiniest scenes were very complex and required a tremendous amount of work. "There were so many eighths of a day that involved six setups. We had 14 'Rome burns' situations per day. Fortunately, I like to have fun on my sets, and if you give that out, you get it back."

Las Vegas Bets on Motion Picture Studio

The desert landscape, flashing multicolored facades and extravagant excesses embody the oasis known as Las Vegas, a production backdrop of countless movies and television shows over the years. However, while productions continually flock to the showy city, Las Vegas has never had a successful, full-service motion picture studio. Casting director Marilee Lear and her husband, John, are planning to change that.

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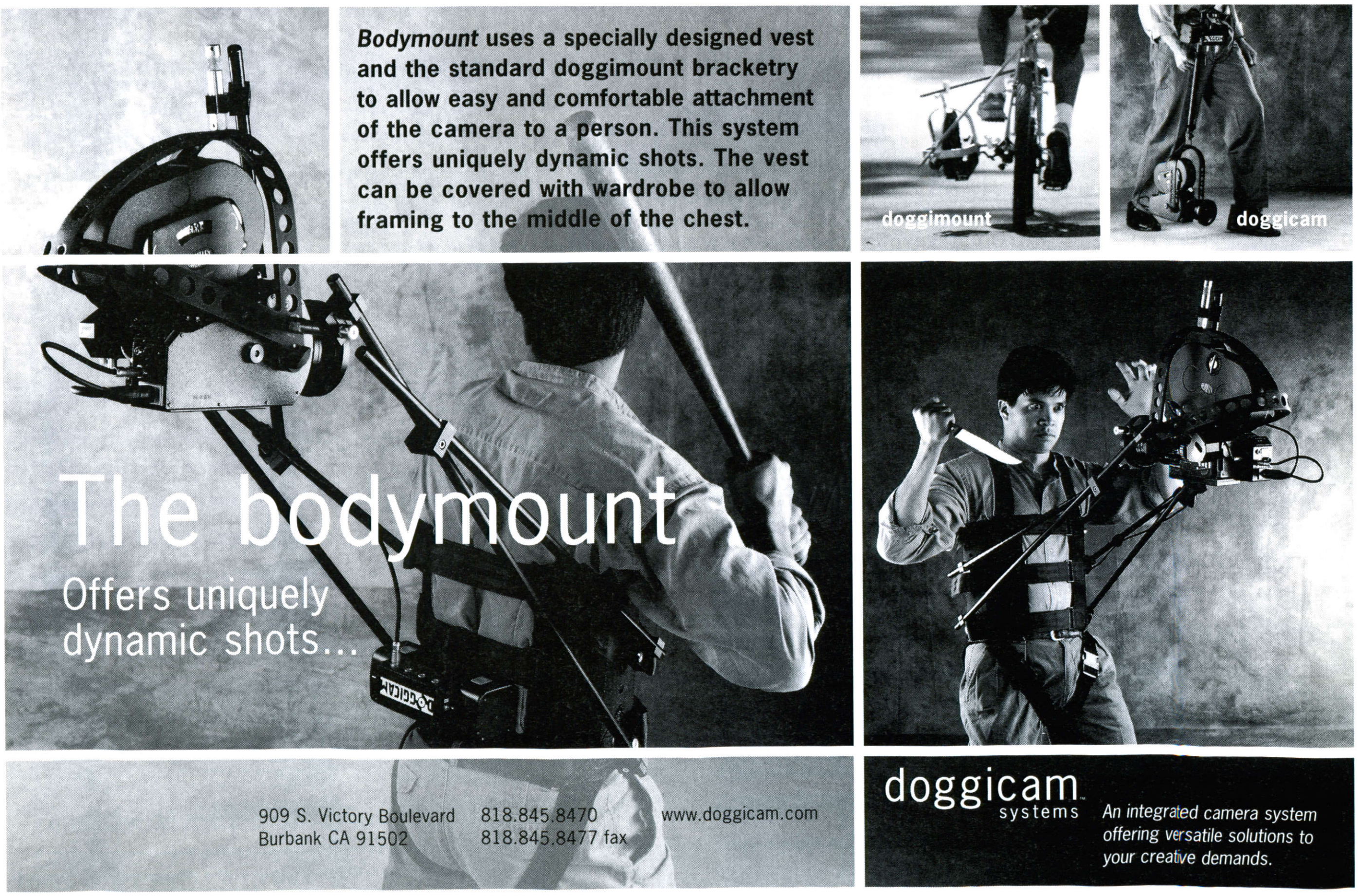

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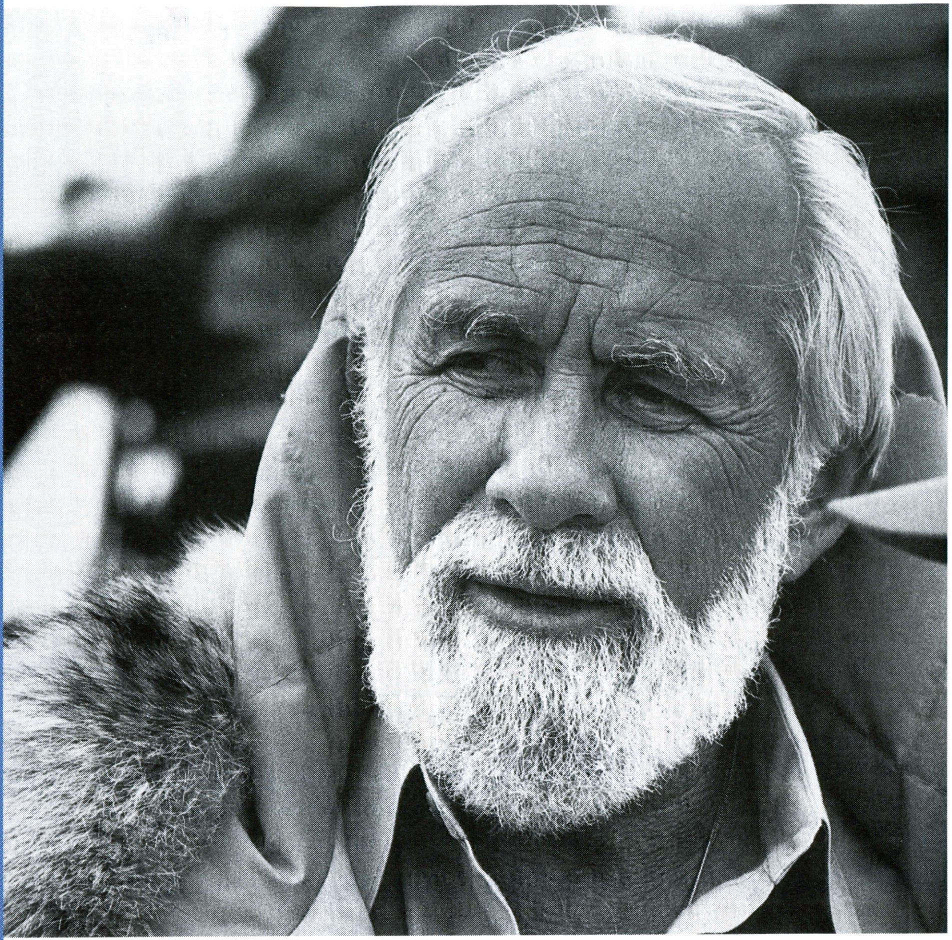


A Sure Hand at the Camera

William A. Fraker, the recipient of the American Society of Cinematographers' 1999 Lifetime Achievement Award, discusses his rich filmic legacy.

by David E. Williams

Once, when asked to describe the key attribute that he looks for when considering another director of photography's work, distinguished cameraman William A. Fraker noted, "I think the criterion for separating the men from the boys is the fact that when you look at it on the screen, you have to see consistency in the work. The *consistency* has to be there."

The American Society of Cinematographers recognized this same virtue by naming Fraker the recipient of their 1999 Lifetime Achievement Award. The ceremony will be part of the Fourteenth Annual ASC Outstanding Achievement Awards, to be held on February 20 at the Century Plaza Hotel in Beverly Hills, California.

The ASC Awards Committee, headed by chairman Bud Stone and co-chairman Owen Roizman, ASC, selected Fraker in part for his diverse filmography, which includes *Bullitt, Rosemary's Baby, Paint Your Wagon, The Day of the Dolphin, Exorcist II: The Heretic, Protocol, Memoirs of an Invisible Man, Tombstone* and *The Island of Dr. Moreau.* His next two pictures, the military thriller *Rules of Engagement* and the drama *Town and Country,* will be released later this year.

Among other honors, Fraker has earned Best Cinematography Academy Award nominations for *Looking For Mr. Goodbar, Heaven Can Wait* (see page 136 of this issue), *1941* (a show on which he also earned a second nod for Best Visual Effects), *Murphy's Romance* and *WarGames.*

Remembering how ASC president Victor J. Kemper called him to inform him that he'd been selected for the Society's highest honor, Fraker notes, "I was flabbergasted, and I'm very honored. I love the ASC; it means a hell of a lot to a *lot* of people, so I'm very happy to get this award. Being recognized by your peers is probably more important than anything else.

"Also, if any success is given to me, it has to be shared with my crew — they are magnificent and loyal: gaffer Doug Pentek, best boy Don Yamosaki, camera operator David Diano, camera assistant Ted Chu and key grip Al Laverde."

Fraker is the thirteenth cinematographer to earn the Society's Lifetime Achievement Award. In addition to Wexler, the others are ASC fellows George Folsey, Joe Biroc, Stanley Cortez, Charles B. Lang, Jr., Philip Lathrop, Conrad Hall, Gordon Willis, Sven Nykvist, Owen Roizman, Victor Kemper and Vilmos Zsigmond.

Not surprisingly, being tapped for the Lifetime Achievement Award has inspired a sense of history for Fraker, who is filled with memories of his six decades of filmmaking experience. He offers, "I've been making pictures since the 1950s, and there is just a small group of us who have been at it this long: Connie Hall, Haskell Wexler… Vilmos Zsigmond and Laszlo Kovacs are getting there. But while the business is changing — and it has always been — somebody will have to photograph the pictures."

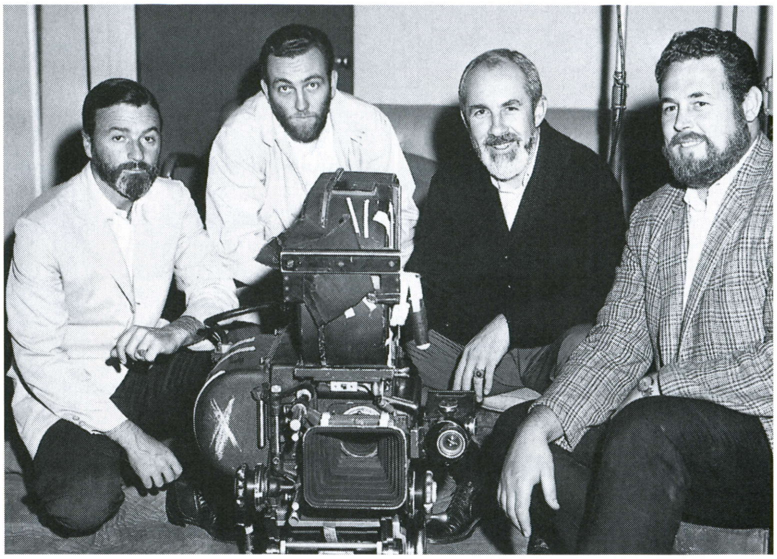
William Fraker was seemingly destined for this enviable task.

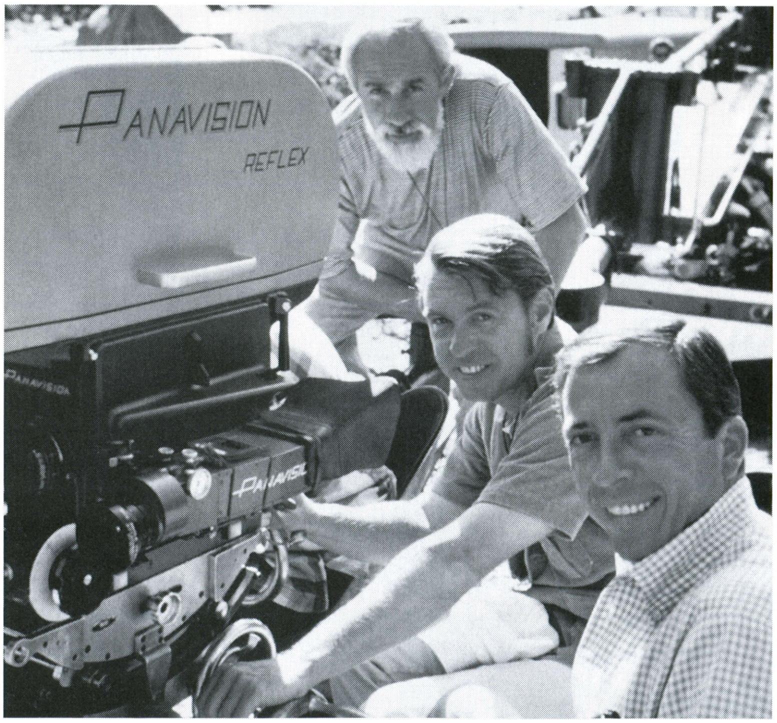
In His Blood

Born in 1923, Fraker grew up in the glow of Hollywood. His maternal grandmother, who arrived in Los Angeles from Mazatlan, Mexico, in 1910 with his mother and aunt, worked downtown as a still photographer at Monroe Studios. After his parents met and married, she taught his father, William Fraker, Jr., her craft — at which he excelled. "My father started out at Universal, Pathé and First National before running the stills gallery at Columbia from 1928-'29 to 1934, when he died of pneumonia," Fraker recounts. "My uncle Charles started out working for him, but moved over to work at Paramount, where he later took over the department and ran it until after World War II, when the studios eliminated all of their stills galleries.

"My mother died a year after my father passed away, so I was raised by my grandmother and aunt. They told me I was going to become a cameraman, so from the time I was 14, that was what I was going to be."

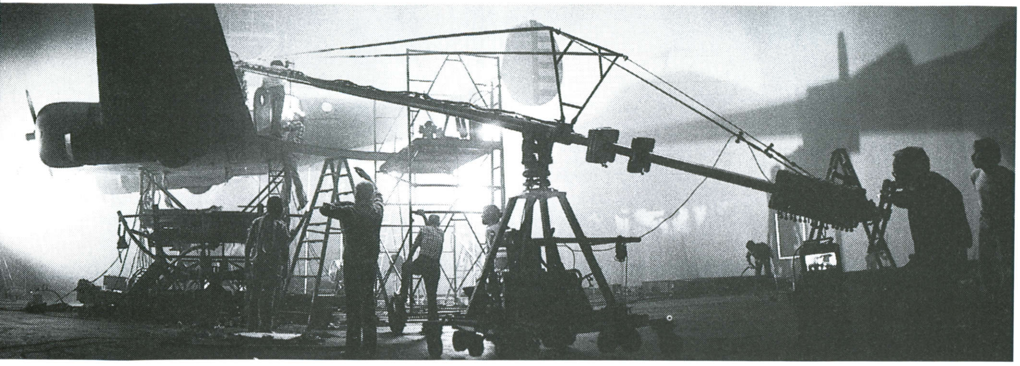
Fraker served in the Coast Guard during World War II, and saw action throughout the Pacific. After returning home in 1946, he immersed himself in movies — *Gilda*, starring Rita Hayworth and shot by Rudolph Maté, ASC was a particular favorite — and his interest in becoming a director of photography fully took hold. "I was once asked which cinematographer made me want to be one as well," Fraker says. "Well, it wasn't a single person; it was an *era*. It was the 'Golden Age' of Hollywood, when the studios were making all kinds of pictures: big musicals, gangster pictures, love stories… It was all of those pictures together that made me say, 'This is what I want to do.' It was a dream world, and I wanted to be part of making it."

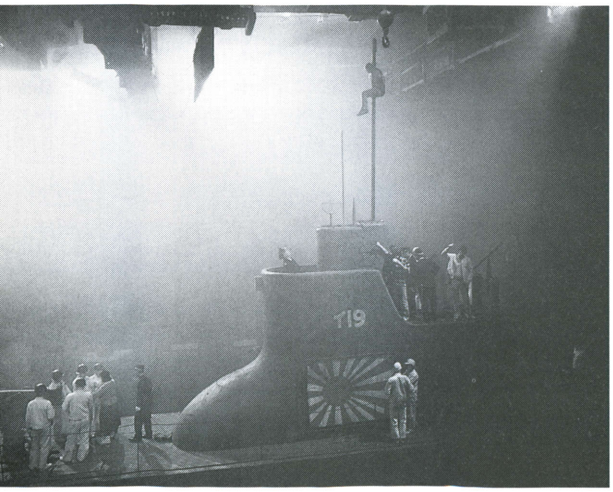




Top: Fraker got his start in television, beginning as a loader on *The Adventures of the Lone Ranger* in 1954. After becoming an operator, he worked with cameraman Conrad Hall, his future fellow in the ASC. Here they are circa 1962 while shooting the short-lived Western series *Stoney Burke* (from left): Hall, second assistant Tom Laughridge, Fraker and first assistant Ken Peach, Jr. Bottom: Fraker on location in scenic Oregon with operator David M. Walsh and assistant Bobby Byrne in 1968 while filming the opulent Western musical *Paint Your Wagon*. Walsh later shot Fraker's 1970 directorial debut, *Monte Walsh*. Both he and Byrne embarked upon their own successful careers as cameramen, and also became ASC members.

A Sure Hand at the Camera





Two production shots from *1941* (1979), an epic film that showcases some of Fraker's best work. Right: A Louma crane was used to simulate in-flight movement while filming action aboard a vintage Beechcraft airplane. Below: A full-scale mock-up of the Japanese submarine that shells the Ferris wheel and other amusement attractions at Ocean Park.

This desire to elude the everyday would later affect Fraker's basic sense of aesthetics, his very way of imagining stories in order for them to be recorded on film. "Why would *anybody* want to re-create reality?" he asks today. "The only reason to attend a concert, a stage play or a movie is to *escape* reality. You have to be a *storyteller*, to invite the audience into what you want to say and take them on a trip. Part of that is the photography, so why should I try to make it look 'real'?

"One of the things I love about shooting in the studio, as opposed to on location, is that you can walk onto a dark stage and put that first light anywhere. That's the first brushstroke, and you can then build on it with each additional lamp. You create your own reality, rather than re-creating something that's already there."

With firm support from his grandmother and aunt, Fraker enrolled in film school at the University of Southern California under the G.I. Bill. Favoring night classes (because they were taught by moonlighting Hollywood professionals), he worked part-time for photographer Tom Kelley, who made his mark with a now-legendary calendar photo of Marilyn Monroe.

Asked to reflect on his experience at USC, Fraker, who currently teaches both at his alma mater and the new Los Angeles Film School, replies, "USC was more disciplined when I was there. Today, you can direct the emphasis on what you want to study, and while most schools seem to stress directing, you are also encouraged to study all areas of production. At the L.A. Film School, they want you to learn a little bit about everybody's job, and it's an all-film, totally immersive program. These students want to know everything you can teach them, and they want to know it *now!*

"I have to slow them down, and try to drill the importance of storytelling into them. That's the key. But technical innovation is happening so fast today — it's storming through like a tornado — that I don't feel that too many people are keeping up with it. The older cinematographers aren't as interested. I tell my students, 'This is your world,' because at the age of six months, while they're learning to crawl, they're right in front of the television. Their understanding of images and how they work is far ahead of where we were at the same age. At 21, they have an understanding of visuals that we didn't have until we were 35."

Following his graduation from USC in 1950, Fraker found himself shut out of his chosen profession. "The Camera Guild was completely closed because they were protecting their members," he explains. "It was impossible for me to work." Frustrated, Fraker toiled as an editor at various television production companies, and mustered non-union camera jobs by shooting inserts and stock footage on the fly.

A Breakthrough

By the mid-1950s, television radically changed this situation, as camera crews were desperately needed to fulfill the programming needs of the networks. After Fraker was allowed to join the Camera Guild in 1954, he was immediately assigned as a second camera assistant on *The Lone Ranger* television series, working for Bob Pittack, ASC. "Bob was a phenomenal man," Fraker describes. "He never used a meter — he just exposed everything with his eye."

Fraker subsequently spent over seven years on the lighthearted drama *The Adventures of Ozzie and Harriet*, and credits director/star Ozzie Nelson with helping him rise from second assistant to operator during that time. He notes, "Ozzie loved young people, and if you had a spark, he supported you. He also promoted from within. He taught me how to deal with people."

Once he became an operator, Fraker quickly began working with fellow USC alum (and future ASC fellow) Conrad Hall on such TV shows as the Western *Stoney Burke* (1962-'63) and the sci-fi classic *The Outer Limits* (1963-'65). "We did almost all of the special effects for that show in-camera," Fraker remembers, "and the Mitchells we were using didn't have reflex viewing, which meant we had to have marvelous camera assistants. Ours was Kenny Peach, Jr., who was a great one."

When Universal Pictures

tapped Hall to shoot his first feature, a road film entitled *The Wild Seed* (1965), he brought Fraker along as his operator. "That film was a milestone for both of us, and I later operated for Connie on both *Morituri* and *The Professionals*; he was nominated for Oscars on both pictures. I operated for Connie for five years, and we did some marvelous things together. I learned a lot from him."

By this time, Fraker had built a reputation as a cameraman by shooting commercials, and several producers had tried to get him his first feature. In typical Catch-22 fashion, though, he couldn't get hired. Fraker recalls, "At one point I was invited to shoot *Bonnie and Clyde*, but Jack Warner said, 'Any cameraman that has not yet shot a picture is not going to shoot his first picture on my lot.' So I was out on that one, and it was a common dilemma."

It was Universal production manager Jim Platt who changed this situation by hiring Fraker to shoot the 1967 thriller *Games* for director Curtis Harrington. The cameraman later confessed that if he had the opportunity to shoot the film over, he "wouldn't try to do as much as I did and make *Gone With the Wind* on my first picture. You don't know that when you first go into it because you're dumb, näive and enthusiastic."

Nevertheless, Fraker now had a foot firmly planted in feature film realm, and quickly followed up *Games* with *The Fox* (based on the novella by D.H. Lawrence) and *The President's Analyst.*

An Auspicious Year

The year 1968 became a professional and creative turning point for Fraker due to the success of the films *Rosemary's Baby* and *Bullitt.*

Based on Ira Levin's novel and directed by Roman Polanski, *Rosemary's Baby* follows Rosemary Woodhouse (Mia Farrow) as she falls prey to a Satanic cult that conspires with her husband, Guy (John

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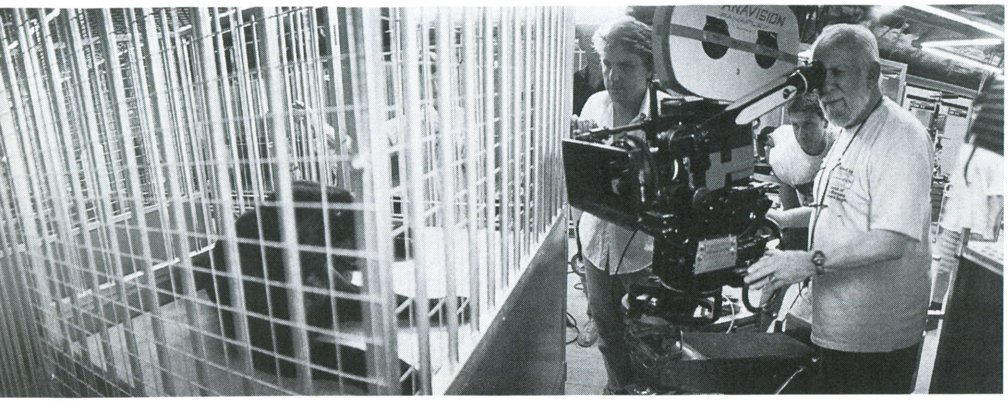
A Sure Hand at the Camera



Fraker joined the troubled production of *The Island of Dr. Moreau* (1996) at the last moment for two primary reasons: To work again with actor Marlon Brando, and to work for the first time with veteran director John Frankenheimer.

Cassavetes), to impregnate her with the Devil's son.

Though the picture could have easily seemed campy, Polanski's sly use of restraint helped make the picture a classic. "Roman is one of the greatest storytellers I've worked with, and he knew how to control and lead the audience," Fraker attests. "He used suggestion to do a lot of it. His earlier films, *Repulsion* and *Cul-De-Sac*, had very little actual violence in them, but they were horrifying. Roman knew how to do that dramatically through the acting and the dialogue. When you're a cinematographer, you have to do it visually, with the lighting and the camera."

The picture opens with a shot that pans across the New York City skyline to present a vertigo-inspiring high-angle view of the rambling Dakota Apartments building, before tilting even further down to find the Woodhouses arriving to inspect their potential new home. "That was a tough shot because it was done from the top of the building across from the Dakota," Fraker recalls. He explains that a special extended platform had to be built off the rooftop to allow the camera to be far enough out to look straight down on Farrow and Cassavettes far below. "For the first take, we tied a rope around the operator, David Walsh, and he crawled out on the platform and did the shot. After he came back, I asked, 'Did you get it?' He just looked at me and said, 'I don't know.' The height was just too much for him, especially as the shot ended looking straight down, so I tied the rope around myself and did a second take. After Roman called cut, he asked me if I got it, and all I could say was, 'I don't know.' So then *Roman* tied himself off and operated the shot. Afterwards, I asked him if he got it, and he said, 'Billy, I don't know.' I still have no idea whose take is in the film."

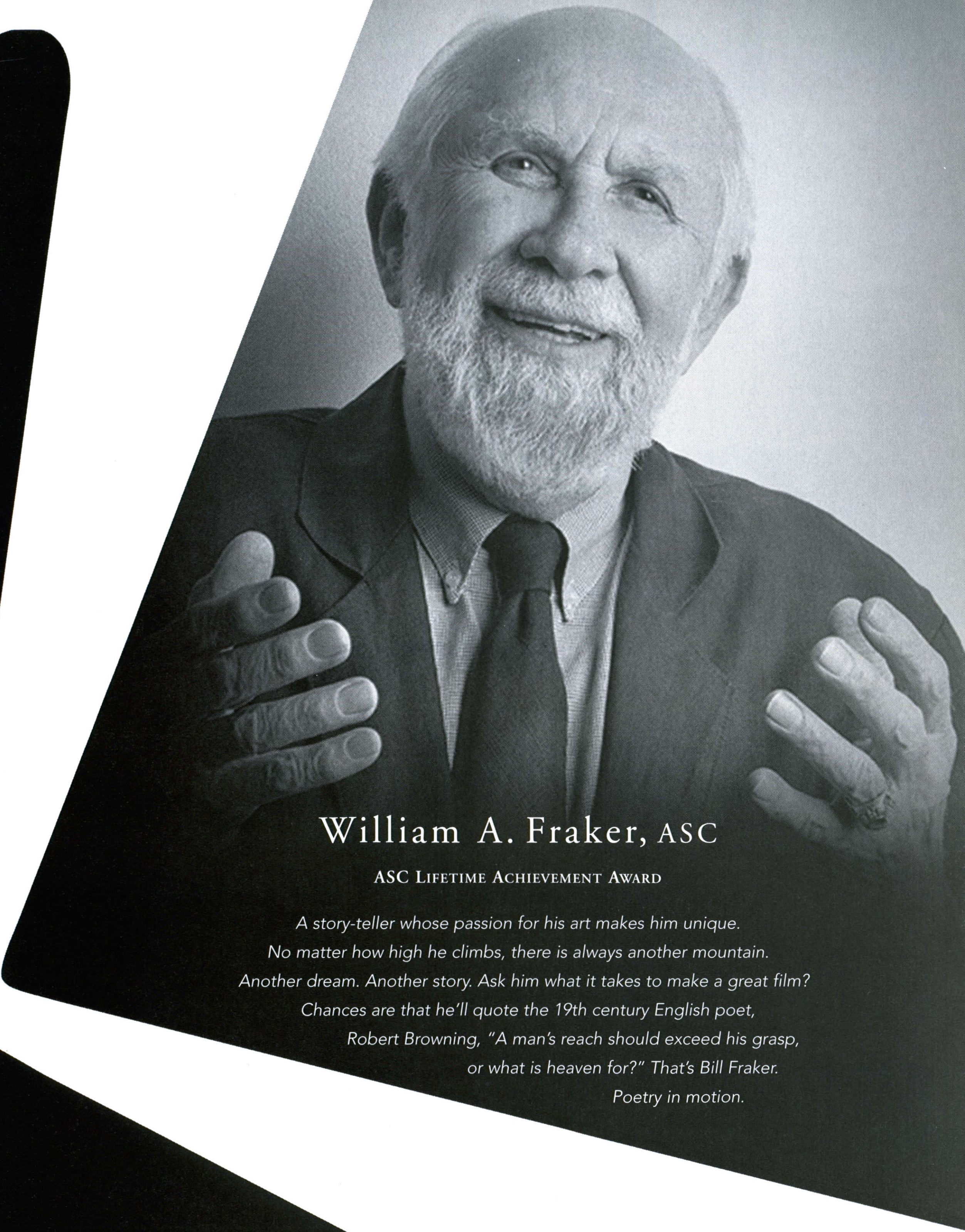
With the exception of that shot, the entire film was shot with either a 18mm or 25mm lens, which adds a subtle level of consistency to the imagery. The wide angles also gave Fraker the opportunity to fully capture production designer Richard Sylbert's impressive sets of the Woodhouses' apartment. "Dick Sylbert's sets were amazing," Fraker enthuses. "They were completely wild, so we could shoot from anywhere, and the walls were held together with these metal catches so they could be taken apart and put back together without damage." He adds that because of the wide lenses, lighting could not be done from the floor, and that the 20' walls prohibited anything but toplight from the overhead grid. A system of extendable lamp supports (dubbed "trombones") was created, allowing Fraker to attach lamps to the walls themselves, and raise and lower his sources so they would be just off camera.

To lend the film's unsettling nightmare sequences an ambience apart from the rest of the picture, Fraker flashed the film while shooting these scenes to soften the colors and reduce contrast, creating a hazy, dreamlike look. The most powerful, in which a scaly Satanic beast assaults the diminutive Rosemary, features a hallucinogenic aura enhanced by visual effects and process work supervised by Farciot A. Edouart, ASC.

While shooting the film's final scene, in which Rosemary sees her demonic child for the first time, Polanski's belief in restraint — in defying the audience's expectations — again came into play. Fraker remembers, "We were finishing our shots with Mia Farrow and I asked Roman, 'When are we going to shoot the close-up of the baby?' He just smiled at me and said, 'No Billy, no Billy, never.' We were going to have a film called *Rosemary's Baby* and have no baby?! And that was exactly what he wanted. And he was right! Mia Farrow does it all with the expression of shock we see on her face as *she* looks at the baby, and then realizes that it's her child no matter what and begins to smile and play with it. It's a marvelous film moment, and Roman led the audience there. Those are the moments that make it gratifying to work in this business."

While *Rosemary's Baby* benefits from its sense of paranoid claustrophobia, *Bullitt* literally explodes across its scenic Bay Area locations — most notably in the classic car chase that pits a Mustang Fastback against a Dodge Charger in a vicious duel along San Francisco's roller-coaster hills. While this scene has gotten most of the attention over the years, Fraker's work throughout the picture is distinctly in tune with the story, as Detective Frank Bullitt (Steve McQueen) tries to track down the mastermind behind the assassination of a witness under his protection.

Fraker points out that star McQueen did his own driving in the famous scene, and that behind the wheel of the Charger was veteran stunt driver Bill Hickman. He proudly adds that "honesty" was a key component in the visual success



William A. Fraker, ASC

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Three-term ASC president Bill Fraker (center) is surrounded by the nominees for the 1990 ASC Awards at the Society's Clubhouse in Hollywood. Back row: John Flynn, ASC, Dean Semler, ASC, ACS, William Wages, ASC, Kenneth Zunder, ASC, Thomas Alger Oleirson, Michael Watkins, ASC, Victor Goss, ASC and Adam Greenberg, ASC. Front row: Don Burgess, ASC, Denis Lewiston, Lifetime Achievement Award winner Charles B. Lang, Jr., ASC, John Elsenbach, ASC, Ron Garcia, ASC and Gayne Rescher, ASC.

of the sequence.

Fraker relates that before he joined the production, several other cinematographers had already interviewed with director Peter Yates about shooting the hard-boiled police thriller, but that his own meeting with the English filmmaker (at Martoni's restaurant near Hollywood Boulevard) left a distinct impression. "Peter and I were on the same page visually," the cameraman says. "We began talking about the chase based on a similar sequence he'd done in a film called *Robbery*, with these two old Jaguars racing for about 20 minutes. My feeling was that the audience had to feel as if they were inside those cars, behind the wheel, which meant mounting cameras within the cars. Also, I thought that we shouldn't overcrank during the chase to speed it up, but instead, really drive at 125 miles per hour down those streets. Peter loved that idea, and I got the job."

Fraker notes that one of his favorite shots in the entire chase actually precedes the roaring main action: after seeing Bullitt's Mustang appear in his rear-view mirror, the nervous driver of the Charger reaches down and fastens his seatbelt with an audible *click*. "That shot tells the audience to get ready for something amazing," the cinematographer says. "It's a simple yet brilliant touch. The chase is actually quite straightforward, but the execution — Peter Yates's storytelling — is remarkable."

The lighting in the rest of the picture is as hard and uncompromising as McQueen's demeanor in the film. Fraker's use of reflections to open up the frame and reveal the characters and action in unexpected ways adds an impressionistic edge to the images — taking them beyond what one would see in actuality, yet maintaining their sense of modernity.

Both *Rosemary's Baby* and *Bullitt* were smash successes. "Honestly, that year was a period of creative, critical and popular success that I've not enjoyed since," Fraker says. "The key to both films was the success of the storytelling, and working for directors like Roman and Peter was terrific."

The year 1968 was also important to Fraker because he was invited to join the ASC. He remembers, "It was Stanley Cortez who sponsored me. I met him at Paramount Pictures. Stanley had done a series of camera tests for *Paint Your Wagon*, but the producers ultimately chose me to shoot the picture. I don't know why they did — it certainly wasn't a competition. *Paint Your Wagon* was just my seventh or eighth picture, and Stanley had been at Paramount for a long, long time. But he nominated me for membership and I was accepted. As a result, I became very close with Stanley."

Asked if the two men ever had the chance to work together, Fraker quickly smiles, exclaiming, "No, I only *argued* with him! We'd be at the Clubhouse arguing about things for hours, and it was great fun. The ASC at that time was a really great place. There were so many great cinematographers working back then, like Ted McCord [ASC], who shot *Johnny Belinda*, *The Treasure of the Sierra Madre* and *The Sound of Music*. Those first two pictures have gorgeous black-and-white cinematography, and the other has beautiful color. I'd be at Clubhouse talking to Lee Garmes, George Folsey, Milton Krasner, Arthur Miller — God almighty, I was in *awe* of these people!"

Fraker later served as president of the ASC for three terms (1979-80, '84, '91-'93), and used his position in part to argue that cinematographers should have above-the-line status, call for better technical information resources, establish scholarships for aspiring cinematographers, and help bring attention to disturbing trends in colorizing, reformatting and otherwise altering feature films beyond recognition for television and home video presentation.

Envisioning the West

Having grown up in Southern California, the "Wild West" is close to Fraker's heart, and he has adroitly steered his career — when possible — toward any opportunity to bring his vision of the West to the screen.

Including his early work as an assistant and operator, Fraker has photographed Western tales in many eras and tones, including the epic musical *Paint Your Wagon* (1969), the postmodern farce *Rancho Deluxe* (1975), the warmly heartfelt *Murphy's Romance* (1985), and the crowd-pleasing, rootin'-tootin' *Tombstone* (1993). "I love Westerns, because that period is one of the most romantic times in history," Fraker states. "It was another chance to conquer a new

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ALL-STAR

A father's pride is obvious. Fraker with his son, William A. Fraker Jr., who as a lad had a bit part in his father's film *Monte Walsh*, and later served as a second camera assistant for his dad on a number of films, including *Legend of the Lone Ranger*, *SpaceCamp* and *Murphy's Romance*, before he tragically passed away.

frontier. The settling of the American West transpired in the duration of a single man's lifetime — no more than 60 years."

Humorously depicting the insanity of gold-crazed prospectors and the bawdy boom-towns they built, *Paint Your Wagon* was primarily shot on location in the tree-filled wilderness near Eugene, Oregon. Perpetual heavy rains caused havoc with the production, swelling the budget by a large percentage.

However, one rain-soaked scene early in the picture, in which the drunken Ben Rumsen (Lee Marvin) and his new partner (Clint Eastwood) make amends, perfectly exemplifies Fraker's dramatic lighting in the otherwise gritty-yet-fanciful film. The storm is backlit with pale blue skylight filtering through the clouds, and the characters' faces are filled with warm tones emanating from the lamps in a nearby tent, while strong shafts of bright sunlight breaking through some trees highlight both men. Even while groveling in the muck, the soggy Rumsen appears to be touched by the hand of God — reflecting the reverence Fraker had for the gorgeous landscapes he'd been given to shoot.

The lure of the West soon inspired Fraker to direct his first film, *Monte Walsh* (1970), based on the novel by Jack Shaefer, who had previously written *Shane*. The cameraman's directorial debut starred Marvin, Jean Moreau and Jack Palance, and was photographed by David M. Walsh (Fraker's former operator and future ASC fellow). The tale trails an aging cowboy (Lee Marvin) who realizes that the West he knew and loved will soon be no more — and that there will be no room for him, either.

Fraker revisited the West (and his professional past) by later helming *The Legend of the Lone Ranger* (see *AC* July '81), which was shot by Laszlo Kovacs, ASC and based on the classic story of the Masked Man and his Native American partner. "The film is my homage to John Ford," Fraker explained at the time. "It's old-fashioned, and the opportunity to shoot it in Monument Valley, where Ford made so many of the films I love, was tremendous."

Years later, Fraker shot *Tombstone*. He was interested in the film from the outset simply because it would be a chance to return to the Western genre, but he also developed a deep appreciation for the film's inventive and literate screenplay. Written by Kevin Jarre, the script vividly depicted the events leading up to the showdown at the O.K. Corral as Wyatt Earp (Kurt Russell), his brothers (Sam Elliott and Bill Paxton), and the sickly Doc Holliday (Val Kilmer) face off against their foes. "The script was fantastic, and every actor in town wanted a part of it," Fraker attests, noting that most worked well below their going rate, as he also did. "We filmed in and around Old Tucson, Arizona, where we had built our sets for *Monte Walsh* so many years before. It was strange and wonderful to be back on those same sets, which had finished interiors and exteriors, so we could have the action continue throughout."

Fraker's photography in the film is crisp and clean, eschewing any filtration or diffusion and relying on Catherine Hardwicke's production design to sell the sense of period. The climactic shootout sequence begins with a graphic, arresting shot of the Earps and Holliday walking in formation down Tombstone's main street, with their black dusters flapping in stark contrast to the orange flames of a building burning in the background. As they confront desperadoes Johnny Ringo (Michael Biehn), Curly Bill Brosis (Powers Boothe) and their motley crew, the equally vicious lawmen are soon forced to slap leather — resulting in a chaotic, brutal battle that lives up to the O.K. Corral myth.

A Lighter Touch

Humor is a well-known hallmark of Fraker's personality, and the cinematographer considers Steven Spielberg's epic World War II comedy *1941* (*AC* Dec. '79) to be one of his finest achievements and most enjoyable collaborations with a director. The duo had first worked together while shooting some extra scenes for *Close Encounters of the Third Kind*, and Spielberg found Fraker to be "one of the most open-minded cinematographers I'd ever met, let alone worked with. As far as he's concerned, nothing can't be done. Bill is a professional, a hard laborer, and a spectacular artist."

An absurd farce depicting wartime hysteria in Hollywood, *1941* allowed Fraker to revisit a time and place close to his heart, and to depict it though a lighthearted romanticist's eye. "The look of every picture in inherent to the material," the cameraman says. "This story was a comedic fantasy, so there was room to use the lighting accordingly, and to go beyond what would seem real."

One tool that helped Spielberg and Fraker shoot the film as they had imagined was the newly introduced Louma crane, making *1941* the first Hollywood production to employ the device. While the Louma was originally intended to be used just for a few shots, Spielberg became so

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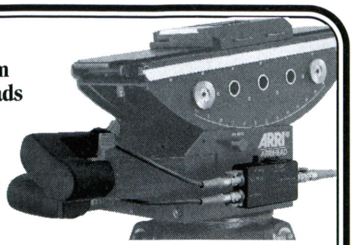
enamored with it that the crane was used throughout the production.

One of the film's most impressive scenes, a jitterbugging USO dance contest that turns into a zoot-suit riot as soldiers and civilians mix it up, was shot almost entirely with the Louma from a single position. The crane's boom arm and hothead-like camera mount allowed Fraker's lens to alternately soar over the performers and dip in for low-angled shots.

The lighting in this scene is indicative of Fraker's keen sense of romanticism, featuring a mix of soft and hard sources as glowing table-lamp practicals and decorative neon fixtures detail the ballroom. "Up above, we had banks of softlights to provide an overall ambiance, a base light," Fraker explains, co-crediting gaffer Doug Pentek for the lighting in the film. "Then we had our rigging with the backlights and rim lights to separate the performers from the backgrounds. That's the key to creating sharp images — the mixture of hard and soft light.

"Some cameramen today only use soft light because it's faster and easier. While it can be used very effectively, it's often not — and the images don't hold up on the screen, because there isn't enough contrast built into them. The picture may look out of focus even if the assistant was right on the mark, because you need light and shadow to create the contrast required for sharpness. You cannot get that with softlight alone."

Interestingly, Fraker initially had strongly mixed feelings about using the Louma. Granted, it was a valuable tool and could achieve spectacular results, but he felt it also distanced the cinematographer and director from the action, since the camera was remotely operated and run on a monitor system. But today, the Fraker notes that the Louma represented a new freedom for the camera that dramatically altered the way films would be made. While he had trepidation then — and abhors



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the "remote-control" filmmaking fostered by the use of video assist — he has embraced the creative options these tools offer.

1941's special effects — which included a barnstorming dogfight over Hollywood Boulevard, the shelling of the towering Ferris wheel in Ocean Park, and other assorted scenes of mayhem — were created almost entirely in-camera, and accounted for so much screen time that Fraker felt compelled to get deeply involved with their creation.

Working alongside effects expert A.D. Flowers, miniatures specialist Gregory Jein, and ace effects cameraman L.B. Abbott, ASC, Fraker helped design the lighting for the miniatures in elaborate levels of detail. This is perhaps best exemplified by the forced-perspective Hollywood Boulevard set, which featured several scale-model city blocks of 25' "miniature" buildings. "We decided that the miniatures would have to be built on a scale that would make it possible for us to light them realistically,“ Fraker says. "They had to be big enough so that we could put a lamp inside a building and have a shaft of light coming out of a doorway or window onto the street. On the Hollywood Boulevard set, you can see lighting coming through the cracks in the window blinds and under the tiny doors. All of those levels of detail combined to result in a very realistic look."

A New Millennium

"I was recently asked, 'What do you think about the art of cinematography and its future?' Fraker recalls. "I replied, 'As long as there is film, there will be cinematography.' So they asked, 'What about the digital world?' I answered, 'As long as there is *film*, there will be cinematography.' And as long as there is cinematography, filmmaking will be an art form. When you get into the electronic, or digital world, it becomes something else."

Having felt the impact of digital effects on his craft while shooting both *Memoirs of an Invisible Man* (*AC* Dec. '91) and *The Island of Dr. Moreau* (*AC* Sept. '96), Fraker states, "The nature of cinematography has changed. Years ago, the Motion Picture Academy had two categories for Best Cinematography: Black-and-White and Color. Today, we again need two categories, one for cinematography and one for films primarily made in the digital world.

"Cinematography is about lighting and exposure. You cannot compare *The Matrix* to something like *The Red Violin*. Those films are from different worlds. But where is the separation going to be made?"

While many people are obsessed with technology and its application, Fraker boils his profession down to a simple truism: "The secret of making movies is that — no matter what you're doing on the set — you're a *storyteller*. You're helping to tell a story. And that's one thing that's lacking in some of the films I've seen lately — there's a vague plot, but you didn't care about the characters."

Fraker adds that one challenge facing cinematographers today is finding good screenplays. "I've probably done some films that I shouldn't have done, just because I like to work," he continues. "Usually, the case is that the script isn't as good as it should be, but we try to make it better. Most times it doesn't work, because the material has to be there in the first place. But we try.

"Shooting pictures is what I want to do for the rest of my life," concludes Fraker, who is currently filming the Miramax feature *Wakin' Up In Reno*, directed by Jordan Brady and starring Billy Bob Thornton. "I don't play tennis or golf or have any other hobby to take up my time — mixing a vodka and tonic and doing some gardening is my only escape — so I work. Believe it or not, it's *relaxing* to me." ■

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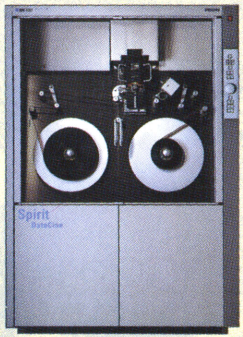

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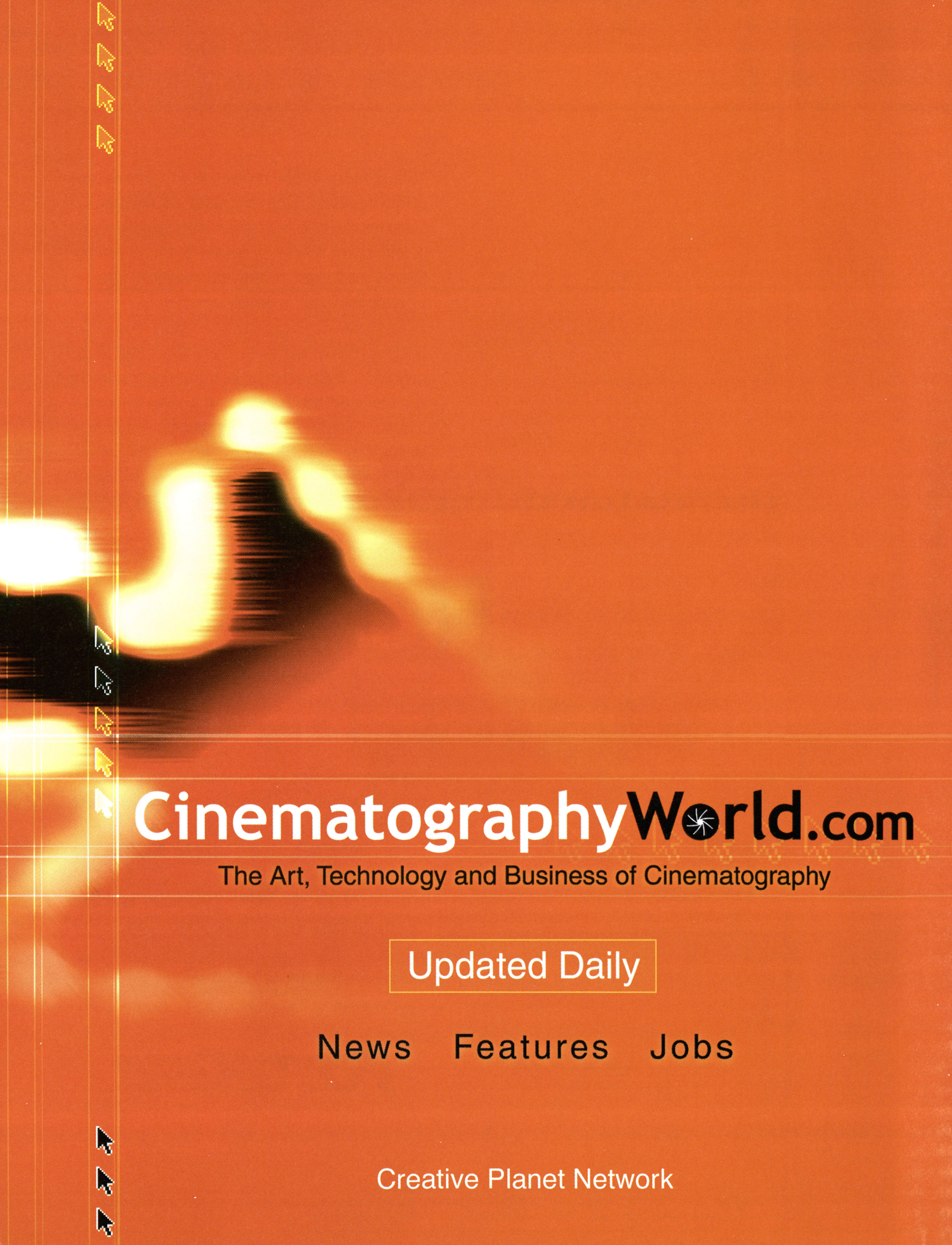

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A Timeless Tale of Revenge

Luciano Tovoli, ASC, AIC lends a keen eye to *Titus*, a visually inventive interpretation of Shakespeare's most violent play.

by Stephen Pizzello

Unit photography by Enrico Appetito, Alessa Bulgari and Mario Tursi

Daring, flamboyant, and fearlessly experimental, *Titus* is the latest in a recent line of motion pictures that have attempted to reimagine the works of William Shakespeare for modern, visually sophisticated viewers. Like Richard Loncrane's *Richard III* (1995) and Baz Luhrmann's *Romeo + Juliet* (1996), director Julie Taymor's new film takes its source material — *Titus Andronicus*, generally regarded to be the Bard's most violent work — and places it in a completely new and intriguing context.

While *Richard III* plays out against a "Fascist England" backdrop and *Romeo + Juliet* sets Shakespeare's famed romantic fable in a hip, streamlined futurescape, Taymor's *Titus* combines various periods into a timeless world in which Roman soldiers tool around on motorcycles and Goth princes dance to modern rock music and play videogames in the Emperor's palace. This approach hews closely to the aesthetic that Taymor, a renowned theatrical director, created when she staged *Titus Andronicus* as an off-Broadway play in 1994 (see Q&A on page 62).

A hit with audiences during Shakespeare's era, *Titus Andronicus* fell into disrepute in the 18th Century, when tastemakers disdained its Grand Guignol blend of murder, mayhem and black humor. The play eventually regained some of its reputation when Peter Brook mounted a landmark 1955 stage production starring Lawrence Olivier as the great Roman general Titus, and Vivien Leigh as his daughter, Lavinia.

As Taymor's screen version begins, Titus (Anthony Hopkins) is leading his troops back into the Roman Coliseum after defeating the northern Goths in a fierce battle that has claimed all but four of his sons. However, the general has managed to capture the Goth Queen, Tamora (Jessica Lange), as well as her three sons and her Moorish lover, Aaron. Heeding the advice of his eldest surviving son, Lucius (Angus Macfadyen), Titus ignores Tamora's plea for mercy and hews to religious

Photos courtesy of Fox Searchlight.

ritual by sacrificing one of the Queen's three offspring.

Tamora and her two remaining sons, Chiron (Jonathan Rhys Meyers) and Demetrius (Matthew Rhys), vow to gain revenge, and they quickly get their chance. Spurning the sentiments of his family and friends, Titus declines the opportunity to be crowned emperor of Rome, and instead throws his support behind the devious Saturninus (Alan Cumming). In the resulting dispute, Titus kills one of his own sons. Meanwhile, Saturninus marries the seductive Tamora and installs the Goth contingent in the royal palace, where they scheme to destroy Titus's reputation and family.

Soon enough, two of the general's three remaining sons are framed for the murder of Bassianus (James Frain), the emperor's brother and the husband of Lavinia (Laura Fraser). Lavinia herself is tortured and maimed by Chiron and Demetrius, who chop off her hands and cut out her tongue. Seeking to save his sons from certain execution, Titus agrees to lop off his own hand in exchange for their safe return, but receives only their severed heads. Stripped of his power, with his family in tatters, Titus seems to disintegrate into madness before launching one final bid for vengeance.

In adapting her adventurous stage interpretation for the screen, Taymor sought out veteran director of photography Luciano Tovoli, ASC, AIC, who has lent his keen eye to some 70 motion pictures. No stranger to audacious cinema, Tovoli has shot a slew of memorable films, including Michelangelo Antonioni's *The Passenger* (which made pioneering use of a remote-controlled camera in its famous final shot), Dario Argento's *Suspiria* and *Tenebre,* Franco Brusati's *Bread and Chocolate* and Barbet Schroeder's *Reversal of Fortune* and *Single White Female.*

When he was first approached by Taymor about *Titus,* Tovoli was unable to take on the project due to a prior commitment. Taymor hired a different cinematographer, but decided to make a change just two weeks into production. At that point, Tovoli was available, and he signed on despite the knowledge that he would be joining the shoot in midstream. "It wasn't the first time in my career that I had to start a film on such short notice, so my experience helped in that regard," the Italian cameraman attests. "I've also worked with a lot of different directors with different personalities, so I can adapt quickly to that type of thing. Once we started, though, everything magically went well."

Tovoli says that he was quickly able to grasp Taymor's unique aesthetic sensibility. "I was not really familiar with Julie's previous theater work, but I'd heard about her Broadway version of *The Lion King.* When I read the script for *Titus,* I thought it was very dramatic and interesting, but the mix of styles seemed very strange to me, and I wasn't sure how we could achieve it. When I met with Julie, though, she showed me some of her work on video, and I immediately understood what she wanted."

The cinematographer notes that he was impressed with Taymor's natural ability and confident demeanor, particularly since *Titus* was her first major feature project. "From the first day, I understood what kind of director I was working

Opposite: On the steps of the royal palace, Titus (Anthony Hopkins, far right) begins to sense that Saturninus (Alan Cumming) may not have Rome's best interests at heart. This page, top: Caked with mud, Titus returns from his triumphant battle with the Goths. This sequence was initially set in the daytime, but the filmmakers felt that sunlight lent the action and costumes too much realism. Below: The newly crowned emperor ponders his next move: choosing a Queen.

A Timeless Tale of Revenge

Standing before the royal palace, Titus's younger brother, Marcus (Colm Feore) asks an assembly of Romans to consider the general's achievements while selecting their next emperor. The filmmakers used Mussolini's E.U.R. building as the palace exterior, and sought to shoot the actors from low angles and other positions that would enhance the architecture's grandeur.

with. Julie immediately struck me as someone who was very focused and determined, with very clear ideas about what she wanted to achieve. Sometimes I work with directors who have too many possibilities in their minds, and they often have trouble choosing one. That can be very tiring for a cinematographer, and you're at risk of becoming lost. I prefer to work with directors who have specific ideas for the movie in their mind, because those types of filmmakers always put you in the best situation. When I was younger I worked with Antonioni on *The Passenger,* and it was very easy to collaborate with him; he knew what he wanted in terms of lighting, colors, and everything else, which made my job much easier.

"Julie has a lot of control over her theater productions, so she really knows what she's after," he continues. "She also has wonderful eyes that enable her to judge what took me about seven years of training to learn — the contrast of a light, or the value of a color. We timed the movie together with Dale Graham at Technicolor, and it went very well, because whenever she said something about the colors or the look, it was exactly what Dale and I were thinking. After just one projection, she knew all about primary colors, secondary colors, and so on. She's a very fast learner, and she was immediately able to adapt her mind to various moviemaking techniques. The main difference between film and theater is that during a stage production, you can see the results of a light or a certain effect immediately — on a movie project, you have to [extrapolate] things a bit in your mind. It was therefore very interesting for me to follow all of Julie's thoughts about the images, and to try to bring her vision to the screen."

Tovoli is quick to point out that he also had the additional benefit of working with top-notch department heads, including costume designer Milena Canonero and production designer Dante Ferretti. He enthuses, "I was placed in front of fantastic sets and costumes that had already been designed and realized — not to mention some real structures that had been brilliantly built by ancient Roman architects! Those existing elements led me to create a lighting style that was quite contrasty, in order to highlight the dramatic contrasts in the story. The fact that Julie was mixing up all of these different eras gave me a huge amount of freedom — in certain situations, for example, I could create huge contrasts in color. Right away on *Titus,* I began drawing on all of my past experience to help Julie achieve her vision of the film. I knew this was not a naturalistic film, though, so when I considered my past projects, I felt it was better to think about stylized pictures like *Suspiria* or *Single White Female,* in which each frame was built by hand, like a sculpture. *Titus* was a real change from the style of the last picture I had shot, so I had to start from scratch. But I enjoy doing that on almost every picture I shoot now. I don't do as many films as I used to, so I try to make each project a new experience."

Titus was filmed at exterior locations in and around Rome, and also in Pula, Croatia. Interiors were shot within soundstages at Rome's famed Cinecitta Studios. Tovoli notes that "if we had made this film in Hollywood, it certainly would have cost three times as much, but normally we would have needed a third more time on such a picture. We shot for 16 weeks, but we were always running out of time. Fortunately, I had great support from Julie and both the Italian producer, Conchita Airoldi, and the American co-producer, Adam Leipzig. I also had the help of a real super-crew that included first camera operator Enrico Lucidi, Steadicam operator Massimiliano Trevis, first focus puller Lorenzo Tovoli, loader Daniela Chioffi, gaffer Carlo Vinciguerra, best boys Marco Contaldo and Luciano Micheli, and key grip Roberto Emidi. On such an intellectually and physically demanding production, I would have been much less effective without the assistance of all of these passionate and experienced people."

Since *Titus* was adapted from Taymor's stage production, Tovoli felt that it was appropriate to apply a somewhat theatrical lighting scheme to the narrative. He admits, "Usually, the rule for a cinematographer is that you don't want to feel the light too much, or impose it on the story, but this film was different. I enjoy breaking those kinds of rules when I can."

A good example of this strategy is a scene in which Tamora confronts Titus from the steps of the royal palace. "That particular sequence feels more like a stage play than a film, with very vivid, colorful lighting and a great deal of contrast," Tovoli notes. "We shot it at two locations. The palace was actually Mussolini's E.U.R. building [also known as the 'square coliseum'], but the reverses, which show Titus sitting among some ruins, were shot at a forum in Villa Adriana, a bit outside of Rome. I basically came onto the production while that scene was being shot, and I used my experience working with gels to enhance the already interesting look that had been created."

Within the palace's throne room, Saturninus listens as the seductive Tamora begs for clemency on behalf of her two sons. The film's opulent, stylized sets were built at Rome's Cinecitta Studios by production designer Dante Ferretti and his crew.

Toward that end, Tovoli recalled his work on *Suspiria,* during which he had lit close-ups with large arc lights filtered through frames of colored velour. On *Titus,* he modified that method a bit, bouncing the light from 2K, 5K or 10K Fresnel fixtures off boards and then filtering the illumination through frames containing gels and some frosted diffusion. He explains, "That technique creates strong colors in terms of contrast, but the diffusion helps to reduce the violence of the colors a bit, and to create some modeling and fewer shadows on the actors' faces. We were using big colored sources, but in a way that was very delicate — I like full tonal photography, and the diffusion kept the light from being unacceptably hard. I also mixed the light from the Fresnel fixtures with more modern units, like Kino Flos. We would have the light from the Fresnel on one side of an actor's face, while illuminating the other side of the face with a Kino Flo placed about a foot away.

"I've done that on other films, but never with as wide a range of contrast as we used on *Titus,*" he concedes. "I think most cinematographers who would want to be perceived as 'cultured artists' with 'good taste' would hesitate to do that kind of thing, because it creates really garish colors. But on this particular film, that style worked very well. I really enjoyed mixing old and new technologies."

Tovoli says that he and Taymor quickly discovered that they shared a mutual desire for clear, sharp images. Addressing his personal philosophy on this topic, the cinematographer maintains that "today, we are surrounded by images that are flat, because a lot of productions don't have the time to photograph things properly. Onscreen, we often see flat light or a romantic style that's very diffused. Why? Because as directors of photography, we all want to hide the fact that we often had a lack of time to photograph things properly! People like diffusion, and they think it looks beautiful. If you do a close-up by putting a fog filter in front of a nice lens that the optical experts have worked hard to design, of course your shot is going to look magnificent. If you utilize a telephoto lens, it will be better; if you use some smoke, it will be much better; and if you combine a telephoto lens with smoke and some backlight, it will be even more impressive.

"Sometimes, though, as a member of the audience, you start to become so alarmed by all of the smog filling the screen, beyond all logical motivation, that you have the impulse to call the local fire brigade! A medium or long telephoto lens applied to a smoggy, backlit set is a very easy and superficial recipe, and like other superficial things in life, it has been quite successful for many years. But for me and for some of my revered idols — such as the photographers Ansel Adams, Edward Weston and Henry Cartier-Bresson, or the great cinematographers G. R. Aldo and Gianni Di Venanzo — that's not pure photography or cinematography. When cinematographers work that way, they're often just doing things easily out of necessity; I myself have occasionally been forced for various reasons to fall back on these techniques, with very little enthusiasm. Some cameramen like that style, but I prefer to build the image in front of the camera while keeping the lens very sharp.

"Julie and I didn't speak about

Titus's daughter, Lavinia (Laura Fraser) reluctantly accepts the emperor's hand in marriage. Soon enough, the scheming Saturninus will change his mind and marry the tattooed Tamora (Jessica Lange, below) instead.

this subject specifically, but after several weeks of dailies work with timer Stefano Giovannini at Cinecitta, we discovered that our main goal was sharpness. I personally believe that photography is about sharpness. Ansel Adams felt that the difference between painting and photography is that in a painting, you see less than the eye can see [in reality]. But in photography — with a good lens, good film, good paper and good development — you will see more than you did when you took the picture in the first place. You will discover something new every time you look at it.

"At the start of all my films, I search to change the style of the lighting, but I never change my attitude toward sharpness and contrast. I try to do things in a more classical way, and *Titus* was perfect for that. We wanted to show all of the great details in the costumes and the production design. That doesn't mean that I used a lot of units to light everything up — the entire frame might be dark except for one significant detail, but that detail is so sharp that you can imagine the rest of the costume or setting around it."

In order to attain both the desired sharpness and good depth of field, Tovoli generally kept his aperture between T2.8 (for night scenes) and T3.5 (for day scenes). The picture was photographed in the Super 35 format with Arriflex cameras rented from Technovision in Rome. "In my opinion, Technovision makes the best anamorphic lens in the world, but on *Titus* we knew we would have a lot of visual effects, so we thought it would be better to shoot in Super 35 with Zeiss lenses," he says. "We used an Arri 535 as our A-camera and a BL as the B-camera, shooting predominantly with unfiltered prime lenses — we didn't even carry a filter case on this picture. If we wanted to use diffusion, I just applied it to the lights. In general, we used wider lenses ranging from 14mm up, but I used a 100mm for close-ups. I tried to avoid using zoom lenses, and in fact there are only two zoom moves in the film — both at the end of the story."

Tovoli employed Kodak's 500 ASA EXR 5298 film stock on nearly the entire picture, with a few notable exceptions. "I used Kodak's 250 ASA 5297 for the forest scenes," he details. "I also used Eastman's Vision 800T ASA 5289 stock for the scene in which Tamora's sons are dancing to rock music in the palace. I had enough light for that sequence, but I thought it required a more modern feel. It played more like a music video, and the 800T stock's grain has a more contemporary look. I lit the scene mainly with Kino Flos, but I also used a big, dimmer-controlled 20K for backlight through the bars on the palace windows. I dimmed it down about 30 percent below its full power to create a bit of a glow. Within the room, I set up a lot of Kino Flos, and I even placed some on a boom so I could follow the boys as they were moving around. It wasn't a realistic situation, so we felt free to take those kinds of liberties in the lighting. We always kept the concept

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Demetrius (Matthew Rhys) and Chiron (Jonathan Rhys Meyers) dance a mock duel to rock music in the palace's very modern game room. Likening this sequence to a music video, Tovoli photographed it with Kodak's Vision 800T 5289 film stock to lend the imagery a more contemporary feel.

of natural light and motivated sources in mind, but on a film like *Titus,* you can often put the light wherever you want. When the actors are playing the scene in a very extreme or stylized way, the lighting doesn't always have to be realistic."

Given an array of beautiful structures and sets to photograph, Tovoli sought to make the film's architectural flourishes an integral part of its narrative flow. "For the sequence in which Saturninus is crowned emperor on the exterior steps of the palace, we used a lot of low, wide angles to emphasize the grandeur of the moment, and to build images that would work with the lines of the architecture. For those reasons, I forgot about using a level camera. We wanted to enhance the power of the building, and Julie placed the actors in positions that would highlight the architecture."

Likewise, several lavish scenes set within the palace afforded Tovoli the opportunity to display Dante Ferretti's spectacular design work, which showcased an ornate swimming pool. "In that situation, I went with what the production design proposed to me," the cinematographer says. "The palace interior was built at Cinecitta, and I went there to look at it. Dante had put a mosaic in the pool, and some nice erotic drawings on the wall, and I wanted to make sure that the audience could see them.

"Once I looked at the palace interior on stage, we built a large structure on which I could place big, directional lights. I used 10Ks set well back to illuminate each of the round erotic paintings on the walls, letting each of them fall off a bit into shadow. Then I thought about how to bring out the mosaic in the pool. Before we added water to the pool, I began thinking about how we could build lights under the surface of the water and incorporate them into the design of the set. When we filled the pool with water, though, we discovered that the water was a bit dirty, so we drained the pool again and factored that knowledge into our approach. I asked the people who were working on that part of the set to research real pool lights, and they found some that were strong enough to cut through the water and become a significant element in the overall design.

"I also decided to put a little backlight on each of the set's columns to separate them a bit from the walls. There was a dome in the roof, so we used four 20Ks to create a shaft of light from above. Once I did that, though, I felt that the drawings were lit a bit too prominently, so I took those lights down a bit on the dimmer. That's the best moment for a cinematographer — when you can play with the lights a bit, adding here and subtracting there. At that point in the process, I decided to add a ¼ CTO to enhance the warmth of the walls. For the big party sequence in the palace, I switched to full CTO to make things really warm and red, as if these people were going to keep reveling all night long. There was also a big translucent wall at the back, so I added some fire effects behind it to add some depth to the background."

Tovoli faced an even greater challenge toward the end of the shoot, when the production traveled to Pula, Croatia, to capture footage at a crumbling coliseum. These scenes — which showed Titus and his soldiers returning from battle, and Lucius deciding the fate of Aaron's baby son — would eventually bookend the film. "Julie's original idea was to shoot at the real Coliseum in Rome, but the city said no," the cinematographer reveals. "Instead, we went to Pula, which was formerly a region of Italy. The Romans built another coliseum there, and it's almost as big as the one in Rome. We initially were going to shoot those scenes in the daytime, but the sun didn't really work with the clay on the soldiers' armor. It was too realistic, so we decided to shoot them at night instead.

"Shooting at night involved a lot of prep, and it was very cold at our location because we were there in the middle of winter. We sent a crew of grips and electricians ahead to the location for several weeks to rig the structure with big lights. When we flew to Pula from Cinecitta, we had to go into a holding pattern, and the gaffer suddenly switched everything on. It was a really magnificent sight from the air, one that the ancient

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A Timeless Tale of Revenge

Bent on revenge, Lucius (Angus Macfadyen, right) confronts the resolutely amoral Aaron (Harry Lennix).

Romans never had a chance to enjoy!

"We lit the first sequence in the coliseum entirely with Maxi-Brutes," he details. "My first plan was to use a total of 2,000 kilowatts, but the producers came to me and said, 'We like what you're doing, but we've spent almost all of the money, so could you rethink things a little bit?' I cut 400 kilowatts from my lighting package, for a total of 1,600. It was just barely enough to do the scene. All of the remaining Maxi-Brutes were set up on big towers around the structure, and they were wired to a dimmer board. When we cut into close-ups, I had small amounts of supplemental lighting. For example, there's one shot of Titus's grandson near a fire, so we created that type of illumination with firebars. In order to cast shadows of the flames, we placed a Fresnel light behind the firebar, removing the Fresnel [lens] from the fixture so that the shadows of the flames would be a bit sharper.

"At the end of the film, the story goes back to the coliseum, and we had to create a fake sunrise. We shot that sequence against a bluescreen backing so the effect could later be added digitally in post."

Digital technology was also used to create a series of surrealistic interludes that Taymor dubbed "Penny Arcade Nightmares." In both the play and film versions of *Titus*, these sequences are used to delve into the interior landscapes of the characters' minds. For the motion picture, Tovoli photographed various live-action elements that would later be digitally composited by Kyle Cooper of the Los Angeles-based visual design company Imaginary Forces, who has lent his skills to a number of striking title sequences, including the eye-catching opening of David Fincher's *Seven*. "We shot all of the Penny Arcade Nightmares at the same time, using greenscreen backings," Tovoli relates. "I accentuated the colors a bit, knowing that they would be desaturated later in post. In terms of the lighting, I knew I would have to do something a bit more extreme, so I made the lights a bit brighter, and really highlighted the actors' faces and eyes. That way, I knew that even after the colors were washed-out and changed in post, each specific image within the combination of elements would remain sharp and strong.

"I really liked the way those sequences turned out — they were a pure form of art that combined photography and modern digital techniques, and they brought a very expressionistic style to the film."

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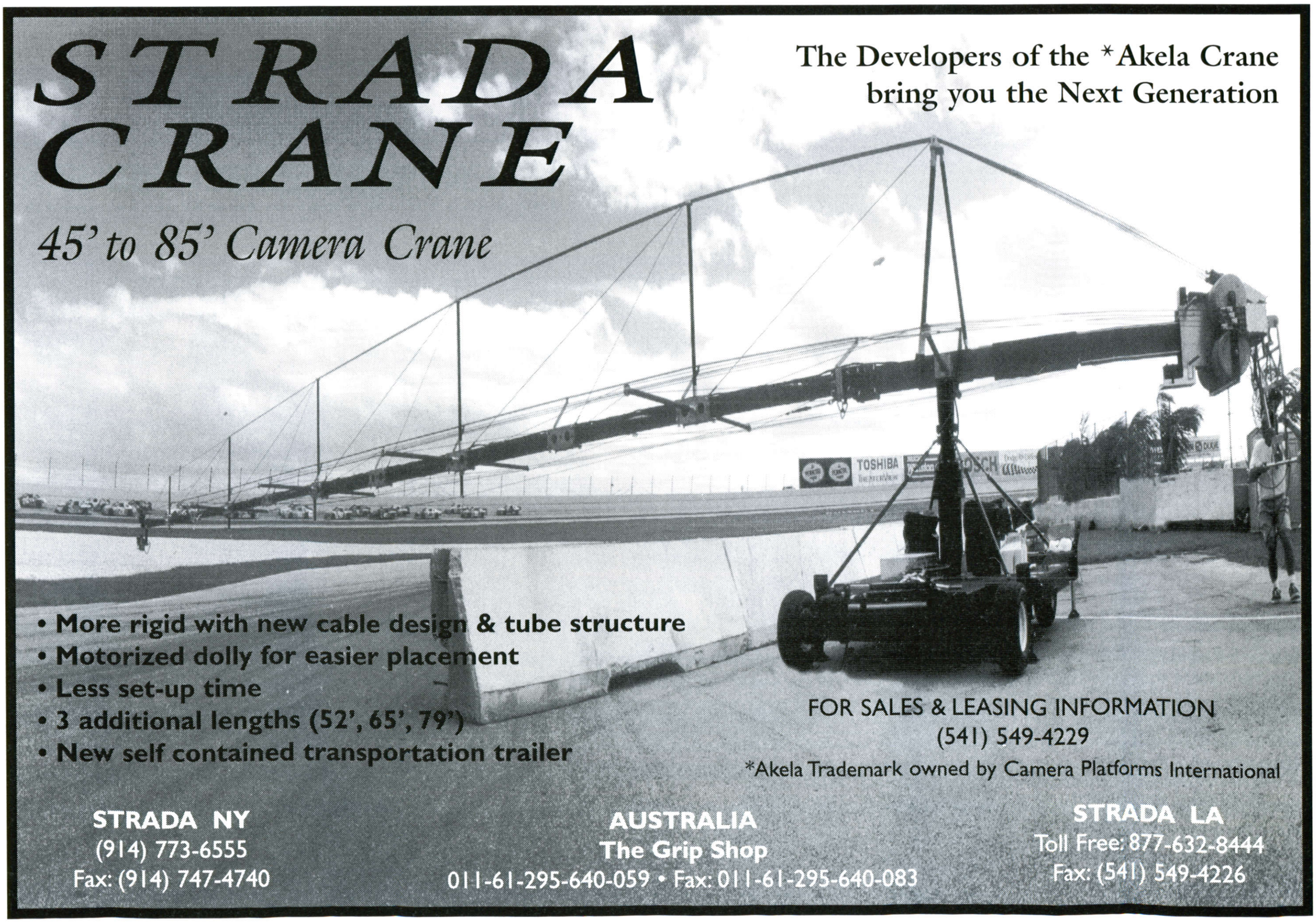
For the tale's climactic banquet sequence, in which the seemingly mad Titus invites his enemies to a home-cooked dinner with a rather gruesome denouement, Taymor and Tovoli took advantage of another bit of modern technology, utilizing the Time-Slice camera-array system to "freeze" the scene's key moment. The system (which consisted of 120 lenses in a long, curved, self-contained housing) was provided by the London company Mad Cow, which also provided technicians to help operate the equipment. "We were initially going to do that scene at a real location, but once the people from Mad Cow explained what they were going to do, I realized that the ceiling was too low," Tovoli says. "The scene required a lot of light —the exposure level needed to be at T8 or T11 instead of a T2.8 — so we had to build a set at Cinecitta. There were a lot of takes where we would see the full scene, however, so I had no place to hide lights. Instead, I put the lights up on overhead catwalks. I was using a series of 5K Fresnels aimed through diffusion; I prepared for one day, and then we shot on another day."

For all of the film's extravagant touches, Tovoli says that one of his favorite scenes was among the simplest in terms of the lighting scheme. Toward the end of the story, a despondent Titus sits alone in his bathtub, scribbling nonsensical drawings on scraps of paper. "I like the look of that scene very much," the cinematographer relates. "The place where we shot it was very small, so we placed the camera outside the door and used a very wide-angle lens — at least an 18mm. I didn't have much room for lights, so I placed a tower outside the room, and aimed an 18K HMI through the small window in the shot. I also added a small, warm, slightly diffused 1K Fresnel light on the right-hand side of the room for Anthony Hopkins' face, along with a bit of smoke to enhance the look of the steam from the bath. I also bounced another small 1K to add a bit of warmth to the wall. It was a simple but elegant look, a bit like a painting."

The cinematographer is quick to add that he rarely draws direct inspiration from specific paintings, and maintains that while painting is often cited as an influence on photography, the reverse statement is also true. "I don't like when I go to a movie and the director has told the cinematographer to take a great deal of inspiration from a painting — to reproduce on the screen what has already been done on the canvas in a magnificent way," he says. "In that type of situation, when you talk



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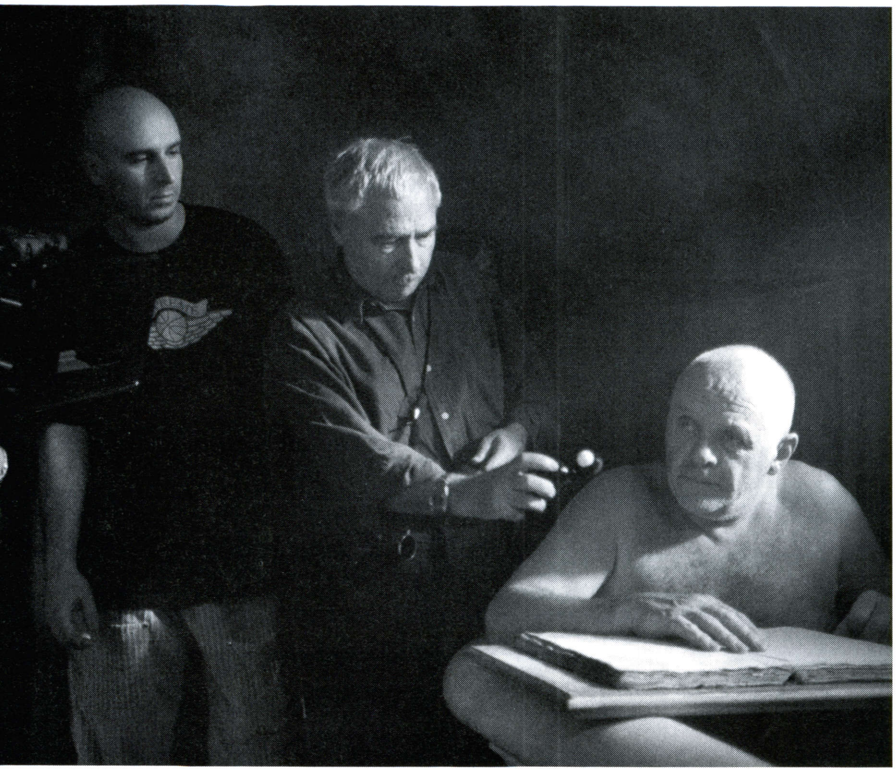

about your work, you find yourself saying things like 'On this film I was inspired by Caravaggio.' Personally, I feel embarrassed and totally ridiculous saying things like that, because after all, Caravaggio is *Caravaggio!*

"I feel that film is a fantastic art form on its own, with its own strong rules and traditions. In fact, in this century, painting has also been greatly influenced by photography. Many modern painters work from photography; they take a picture, project it, and then re-create and transform it on a canvas. In that way, photography has become a tool for painters. Photography has its own laws and aesthetics that make it different from painting, but it's just as important as an art form. I search to obey, as completely as I can, the specific grammar of this specific visual language." ■

Tovoli takes a light reading on actor Anthony Hopkins as the cameraman's son, Lorenzo, studies every move. The Italian director of photography used evocative, minimalistic lighting to lend this scene a painterly feel.

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From Stage to Screen

Theatrical director Julie Taymor reimagines her radical stage version of *Titus Andronicus* for the cinema.

Interview by Stephen Pizzello

Unit photography by Enrico Appetito, Alessia Bulgari and Mario Tursi

In theatrical circles, director/designer Julie Taymor is renowned as an adventurous and highly imaginative artist with a flair for mind-bending visuals. Her stage productions have garnered considerable acclaim; most recently, she earned two Tony Awards (direction and costume design) for her Broadway rendition of *The Lion King.*

In 1996, Taymor directed *Juan Darien* at the Lincoln Center's Beaumont Theater, and saw the fruits of her labor produce five Tony nominations, including one for Best Director. Some of her other theater credits include *Juan Darien — A Carnival Mass* (which earned two Obies and numerous other awards), *The Green Bird, The Flying Dutchman, Salome, The Magic Flute, The Tempest, The Taming of the Shrew, The Transposed Heads* and *Liberty's Taken.*

Taymor directed her first opera when she took on Stravinsky's

Oedipus Rex in 1992 for the Saito Kinen Orchestra in Japan, with Seiji Ozawa conducting. Her film version of the live production (shot by cinematographer Bobby Bukowski) premiered at the Sundance Film Festival and won the Jury Award at the Montreal Festival of Films on Art. After the picture was broadcast internationally in 1993, Taymor won an Emmy Award and the 1994 International Classical Music Award for Best Opera Production.

She also gained filmmaking experience by writing and directing *Fool's Fire,* an hour-long adaptation of Edgar Allan Poe's *Hopfrog* that was also shot by Bukowski. Produced by American Playhouse, it premiered at the (pre-Sundance) American Film Festival in Park City, and aired on PBS in March of 1992. An experimental blend of 35mm footage and high-definition video, *Fool's Fire* went on to win the Best Drama Award at the Tokyo International Electronic Cinema Festival.

Taymor's production of Shakespeare's *Titus Andronicus* was produced off-Broadway by Theater for a New Audience in the spring of 1994. She subsequently adapted the play into a film script, and kept her unique interpretation intact on the screen with the help of top-flight collaborators, including cinematographer Luciano Tovoli, ASC, AIC (see separate feature story on page 52), two-time Oscar-winning costume designer Milena Canonero (*Chariots of Fire, Barry Lyndon*), production designer Dante Ferretti (a five-time Oscar nominee whose credits include *The Adventures of Baron Munchausen, The Age of Innocence, Interview With the Vampire* and *Kundun*), and composer Elliot Goldenthal (a two-time Oscar nominee for his work on *Interview With the Vampire* and *Michael Collins*).

Taymor discussed *Titus* with *AC* during a recent visit to Los Angeles.

Opposite: Seemingly oblivious to the frigid cold in Pula, Croatia, Taymor and actor Anthony Hopkins discuss the next scene. This page: The director admires a floating sculpture within the palace set at Cinecitta Studios.

***American Cinematographer:* Have you always been interested in film as a creative medium?**

Taymor: Yes, but because I grew up doing theater, I was always busy with that. I never put aside the time to shift over to film, although I did do some Super 8 work and two-dimensional animation as a teenager. I eventually took a summer film course at New York University, and later on I participated in both the theater and film labs at the Sundance Institute. My first big film project was *Fool's Fire,* which was televised on the PBS series *American Playhouse.* Unfortunately, that was only an hour-long film, so it couldn't be categorized as either a short film or a feature. It went to festivals and won awards, but not many people got to see it. *Fool's Fire* was experimental in nature, but very much controlled within a studio.

Titus therefore wasn't my first time working with cameras, but it was my first real feature film on location. It was very different than working within theatrical limitations or entirely within a studio.

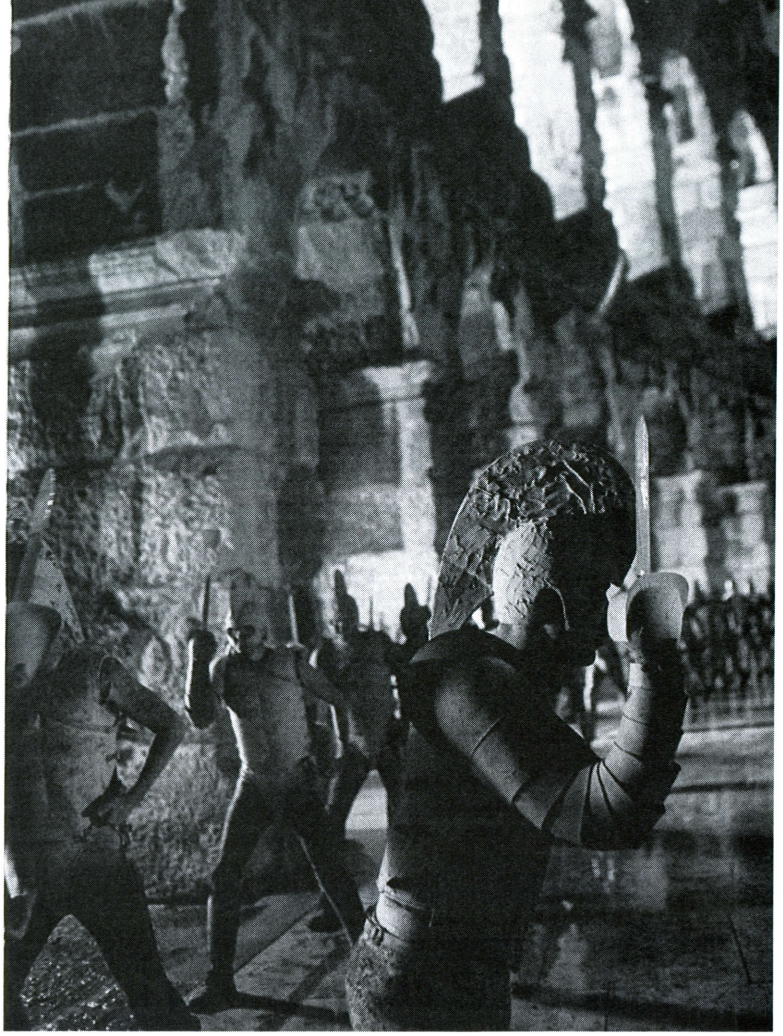
How did you get your motion-picture version of *Titus Andronicus* off the ground?

Taymor: I'd done the play off-Broadway, and I decided to write a script adapted from Shakespeare's original text. Ellen and Robbie Little from the Overseas Film Group [who eventually would serve as executive producers of the film, along with Stephen K. Bannon] optioned the screenplay. We then went through the process of casting actors, and when Anthony Hopkins signed on to star, all of that became much easier. It was still hard to get enough money, but that's always difficult — especially when you're dealing with one of Shakespeare's tragedies, as opposed to a comedy like *A Midsummer Night's Dream* or *Much Ado About Nothing.* However, [producer] Jody Patton of Clear Blue Sky liked the screenplay very much, and she'd seen a PBS behind-the-scenes show about my work on *The Tempest* [for the stage]. She'd enjoyed that, and my Broadway version of *The Lion King* was just beginning to bloom, so she and Paul Allen decided to back *Titus.*

The film's budget should have been bigger when we started, but at a certain point you have to just start working with what you have. Once everyone began seeing dailies, we got some more money for the CGI shots and other postproduction work.

What led you to select *Titus Andronicus* as your first feature-film project?

Taymor: I've had other offers,



Moving with highly stylized precision, Roman soldiers return from battle amid the epic ambience of an ancient coliseum. When the city of Rome refused to allow filming in its famous stadium, the production opted to use another coliseum in Croatia.

but I've always loved *Titus Andronicus*. I felt that it was the most contemporary and accessible of Shakespeare's plays, and I also thought it had the most to say about the violence that's taking place in the world right now. It's a very powerful play, and I knew it could be a movie.

Frankly, I think Shakespeare should be given some kind of Lifetime Achievement Award for Screenwriting. His plays *are* screenplays, because there's no scenery in them; he doesn't place those types of limitations on the reader's imagination. They're not like modern plays, which often have two or three characters sitting around in living rooms or kitchens. Plays like that are so boring — they lack the vision and scope of Shakespeare. He doesn't include specific settings, so if you're adapting one of his plays, you can envision anything you want. As an artist, I find it very exciting to be able to add my own ideas, such as staging a key scene with Titus in a bathtub. There's nothing in the play that says Titus is sitting in a tub, or that Rape, Revenge and Murder visit him in the guise of animals. I'm very dedicated to Shakespeare's intent, but I've also taken some artistic license with the material. For example, Titus's grandson is a minor character in the original play, but I wanted to expand his role a bit to show the scope of the story through his eyes.

In both the play and the film, you've melded various eras into a unique, timeless and rather surreal setting. The costumes, production design, and other visual elements combine both classical and modern Western aesthetics. What inspired you to adopt that creative strategy?

Taymor: That idea is introduced in the first scene, in which the young boy is shown sitting at a kitchen table and playing with toys representing both modern superheroes and classical soldiers. From there he enters this kind of timewarp that transports him into an ancient coliseum, where Titus and his soldiers are returning from their victorious battle with the Goths.

I had talked everything over with my wonderful Italian collaborators, and we really worked on how we could unify this world that's actually a collision of various worlds. By introducing that concept in the first scene, we could then combine tanks, chariots, motorcycles, horses and Etruscan armor in the following sequence. All of that was extremely plotted out, because I had spent four years working on *Titus*. I'd done it as a play, so I had already been through that rigorous discipline of 'reducing' things. As a theater director, you have to be very strict about getting things down to their essence. I also work as a theatrical designer, and I'm always striving to find the simplest and most essential way to create a scene. Before *The Lion King,* my productions didn't have huge budgets, and I think that gave me discipline as a director.

What were some of your specific visual influences in terms of the material?

Taymor: In the theater version, everything was much more black-and-white, and one of the strongest influences was the work of [still photographer] Joel Peter Witkin. In both the play and film, I wanted that sense of defamed, deflowered elegance. When you go to Rome, you see graffiti on these beautiful monuments. The symbol of Titus is really a great sculpture from antiquity with a broken hand and a broken foot. In his photography, Witkin often defiles various masterpieces, but they're still beautiful in the end. *Titus* is a dark tale, but it's also very moving — there's exquisite beauty in the ugliness and the torture. The play could be treated as a big, Grand Guignol comic book, but I think the poetry of the story is too rich and too deep to take that approach.

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From Stage to Screen

Throughout Titus, Taymor takes creative license with Shakespeare's text to produce symbolic visuals. Here, Demetrius (Matthew Rhys) dons the guise of a tiger in an attempt to beguile the seemingly addled general.

In *Playing With Fire,* a book about your work, you've cited both Fellini and Kurosawa as influences.

Taymor: I think Kurosawa's *Ran* and Orson Welles's *Chimes of Midnight* are the best screen interpretations of Shakespeare's work. I've always loved Kurosawa; I spent a year in Paris [at age 16, studying mime at L'École de Mime Jacques LeCoq,] and when I used to go to the Cinémathèque to see films, Kurosawa classics like *Rashomon* and *The Seven Samurai* were among the first that I watched there.

With Fellini, I'm not as drawn to his *entire* sensibility. Oddly enough, I'm not that into *8½* or his other movies that deal with male-female relationships, but I love *Nights of Cabiria* and *Amarcord*. I'm a caricaturist, and so was Fellini. I also sculpt and make masks, and I think I share Fellini's love of the human face, as well as his interest in puppets, clowns, the carnival and the theater.

The film seems to have a very strict color scheme. Was that by design?

Taymor: Yes. The costumes became a difficult challenge, because we were trying to limit our color palette in that respect. We'd limited our palette in the theatrical production as well, because when you're covering such a great span of time, you have to find a [visual] way to glue it all together. My instructions to [costume designer] Milena Canonero were that everything should be either metallic, black, white, red or blue, with no other colors except for the green of the grass if necessary. Originally, I wanted to drain the colors, and we experimented with various lab processes. But when we shot the film, it was so beautiful and rich that we decided against using desaturation.

How did you determine the individual costumes for the various characters?

Taymor: Costumes convey character, and various periods evoke certain feelings in the viewer. In *Titus,* each character spoke to me in a different way. Lavinia is therefore dressed like a lady from the 1950s, with her little short gloves and veil. She's the beautiful girl you want to defile, the jewel of Rome, and I thought of Grace Kelly as the archetype. We put Lavinia quite literally on a pedestal, like Degas's ballerina. In the play we used an actual pedestal, but that was too literal for the film, so we changed it to a tree stump.

Tamora, on the other hand was more of the 1930s and '40s. She's more androgynous, so we put her in a sleek metal gown with her hair slicked back. Meanwhile, Titus's clothing goes from black to grey to white as the story progresses, from armor to a sweater to a bathrobe to a chef's outfit. He gets lighter and lighter. When he's in the sweater, he's like an uncle from the 1960s — his armor has been pierced, and he's been violated. He ends up seemingly stripped of all his power, sitting naked in a bathtub.

Transforming *Titus* into a feature film allowed you to 'open up' the play on a larger canvas. How did that additional freedom impact your directorial instincts?

Taymor: Well, I've never directed an entire army of extras before! I particularly remember going to the location of the Goth camp, which was at this fabulous quarry. It was really daunting, but after we set up all of the tents and soldiers, I just began working my way through it. Camera movement came fairly naturally to me, because I tend to think in very visual terms. We created shot lists ahead of time, but we didn't use many storyboards. Once we went to a given location, I could visualize things, and Luciano and I would sit together and plot things out beforehand. I do like to pre-edit [in my mind], and on this picture I also had a great editor, Françoise Bonnet. I don't do tons of coverage, because I don't believe in it — to me, shooting a lot of coverage means that you don't have a clear idea of what you're after. It's good to have coverage if you have to make cuts for length, or if you're dealing with action scenes.

In fact, some scenes in the film were staged exactly as they were in

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PH: 800 FILM LABS PH:323.462.6696 FAX: 323.462.5039 info@crestnational.com www.crestnational.com the play, such as the sequence in which the heads of Titus's sons are brought to him in a wagon. We shot that scene from behind Titus and the other characters who are with him, so that when his shoulders begin shaking, you think he's crying — until he turns around and you see that's he's actually laughing. In that situation, there was really no need for additional coverage or close-ups. The scene was preconceived to produce a particular effect.

In the theater, you don't get to edit, so the transitions — how you move from one scene to the next — are very important, because they all happen right in front of the audience's eyes. In movies, you can cut, which creates a lot of possibilities. However, I think those options can be even more exciting if you have a clear, preconceived idea in your mind. I generally don't like to 'discover things' at the editing stage, but still, I must say that Françoise managed to come up with some very surprising and exciting ideas.

What were some of the key problems you faced on a larger-scale film project?

Taymor: Well, the biggest problems were getting the permissions to use certain locations, and dealing with the weather. The logistics were the real torture for me. We began shooting in October, and it would get dark at three o'clock in the afternoon while we were shooting an enormous scene in a forest. We were fighting the sun or the rain all the time. During the scene at the crossroads, we wanted gray skies, and they'd be there for a moment and then go away again. I never had to confront those types of problems on my previous film projects, which were both shot indoors.

I much preferred shooting on Dante Ferretti's sets, which were just magnificent and very imaginative. His work on this film is really an example of beautiful and truly *conceptual* production design. He was the one who introduced me to E.U.R., Mussolini's government center, which is known as the 'square coliseum' [and serves as the exterior of the Emperor's palace in the film]. In our desire to blend eras, that building really served as the perfect link to the past; it's a 'modern' structure, but Mussolini was trying to re-create the grandeur of the Roman Empire when he built it.

What led you to hire Luciano Tovoli as your cinematographer?

Taymor: When I started the film, he wasn't available, but I decided to make a change [regarding the cinematographer's position] during production, and he was available at that point. Luciano has done great work, and I love the crystalline quality of his photography. He understands depth of field in a way

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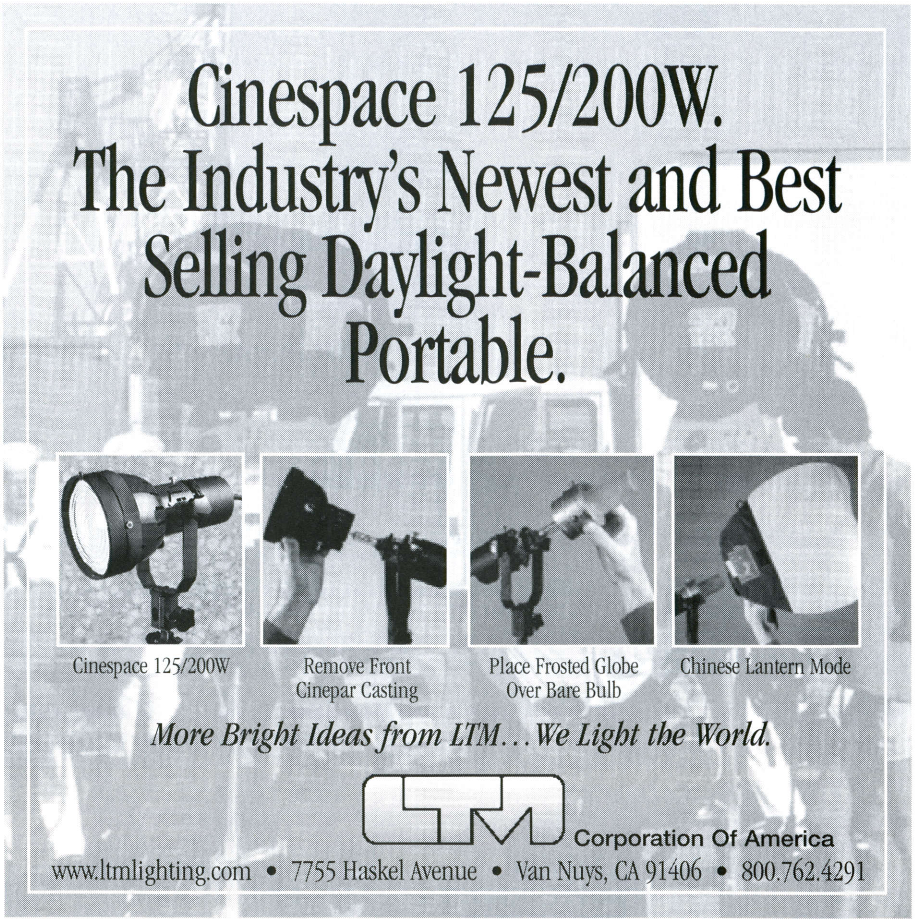
that's very exciting. When we were on the set, I'd sometimes think he was using too much light, but he'd always say, 'Don't worry, Julie, it will give us tremendous range.' And it did — his approach to the lighting gave the picture extraordinary depth and clarity.

How involved did you get with the lighting and composition?

Taymor: I was certainly very involved with those aspects of the shoot. Since I come from the theater, where there's no natural light, I'm used to creating stylized lighting. I think Luciano was a bit surprised by how much I knew about it. He was aware that I didn't have a lot of experience making films, but I do enjoy playing with lighting effects, and I think he was pleased about that. I understand and love the art of lighting, and I also realize that it takes time to set everything up. Sometimes that setup time can be debilitating for the director and the actors, but if you're trying to tell the story through lighting and imagery, the wait is well worth it. With a cinematographer like Luciano, you know you're going to get beautiful results, and I think I gave him a bit more freedom than he's had on some of his other projects. I felt that I was able to tap into his talents, and I gave him the space he needed. I had some great artists around me on this project, and I let them do their jobs.

As far as the framing was concerned, we shot the film in the Super 35 format, and since I'm a painter and a visual artist, every single shot was carefully composed. There wasn't one shot in the film where I didn't know what was going to appear in a given corner or background. Luciano has a beautiful humility and openness, and he's so comfortable in his own experience that he can work well with a newcomer and appreciate new ideas.

In the play, you used intermittent, haiku-like images, which you dubbed 'Penny Arcade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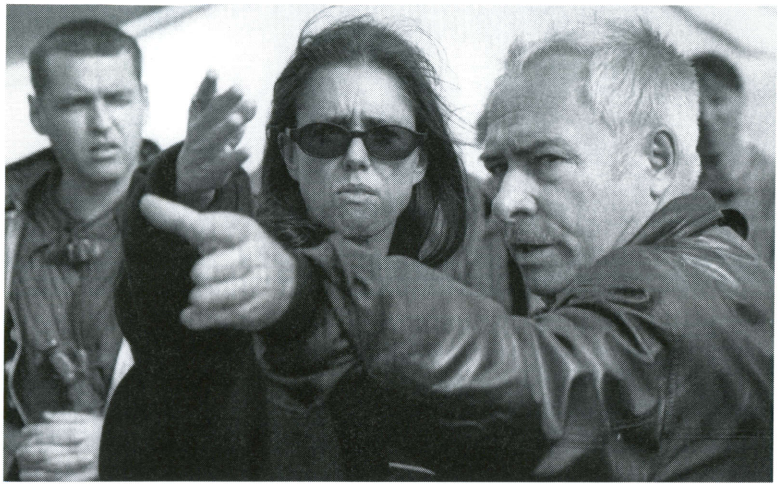
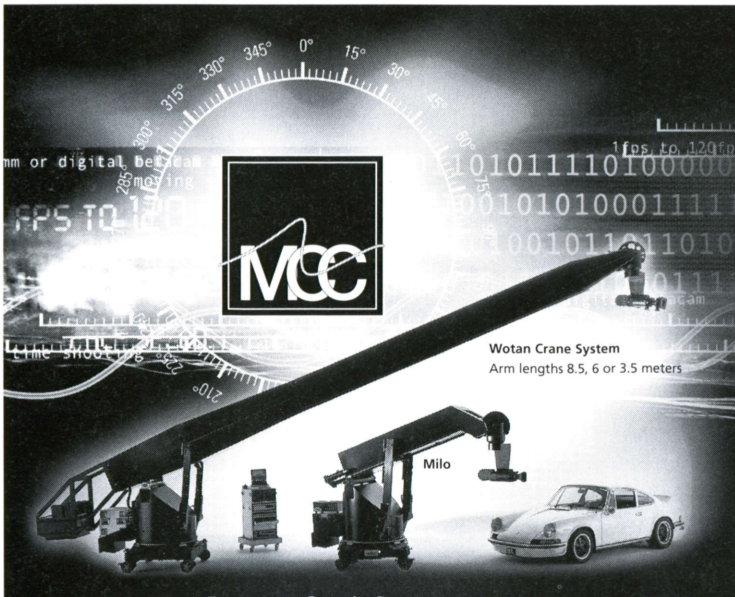


Cameraman Luciano Tovoli and Taymor plot a shot. Because both of the filmmakers are strong visual stylists, their collaborative approach on *Titus* was a close one.

Nightmares,' to reveal the inner landscapes of the characters' minds. In the film, these interludes were shot against bluescreen and then composited digitally. What made you opt for that approach?

Taymor: The Penny Arcade Nightmares were composited by Kyle Cooper [of the Los Angeles-based visual design firm Imaginary Forces], who has done some striking title sequences for various films, including *Seven*. I knew I was going to do those sequences digitally ahead of time. If we'd done them optically, it would have been really frustrating. I've done some compositing on high-definition video, but I didn't want a video look. Kyle understood my desire to lend those sequences a surreal, handmade look that was a bit funky; I didn't want them to be *slick*. I wanted to keep that same raw quality that we'd lent the Penny Arcade Nightmares in the stage version. We provided Kyle with the raw footage for the sequences, and he put them together based on my descriptions of what I wanted to see. It was an interesting collaboration.

You also used Mad Cow's Time-Slice system during the film's climactic banquet sequence to heighten the key moment by 'freezing' it. The use of similar camera-array systems has become very popular in television commercials and feature films such as *The Matrix*. Did you simply feel as if that instant in the story required a



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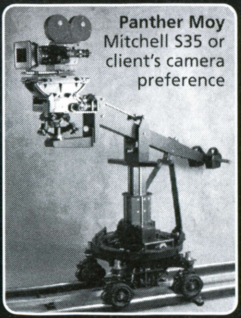
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special kind of technological spotlight, so to speak?

Taymor: Well, I initially intended to use that technique three times during the banquet scene, but that seemed a bit excessive, as well as expensive and time-consuming. I decided that if I was going to use it, I should do it to highlight the final act [of violence] that the child sees. I think in that regard, it worked as the climax of the film. I actually hadn't seen *The Matrix* or all of those commercials before we did it. I've seen them since then, of course, but I think we used the technique as more than just an effect — to me, all effects have to have an underlying meaning that relates to the film's narrative content.

We shot that sequence without the effect as well, but I think you need to stop that moment to highlight the way we create art out of violence, or masterpieces out of torture. The banquet sequence really plays with the way an audience perceives violence.

Your personal interpretation of Shakespeare's work is often categorized as completely original, but Shakespeare himself often cribbed from other sources. How would you assess your work on *Titus* in that regard?

Taymor: I'm a person of this day and age, so my approach to the material is quite naturally influenced by all of the movies, plays, books and paintings I've absorbed. You can't run away from all of that; it's how you twist and turn those influences that makes the work interesting.

For example, in *Titus* we have a huge orgy sequence in the palace featuring visual elements that will certainly recall *Fellini's Satyricon*, because both scenes involve orgies set in ancient Rome. But at the same time, the sequence in *Titus* is really nothing like the orgy scenes in *Satyricon*. Fellini's version is much more formalized and theatrical.

In the same vein, if you're shooting military marches and you do it well, on some level it's going to look like the work of [German Third Reich filmmaker] Leni Riefenstahl. It's not as if we consciously set out to copy that style.

In my opinion, 'originality' is a very dumb concept — it's very 'late 20th Century.' None of Shakespeare's stories are original. You can read passages written by Plutarch that have the exact same lines, and watch Shakespeare's genius as he twists the language and makes it deep and poetic. It's how an artist assembles his or her influences into a whole piece that really matters. ■

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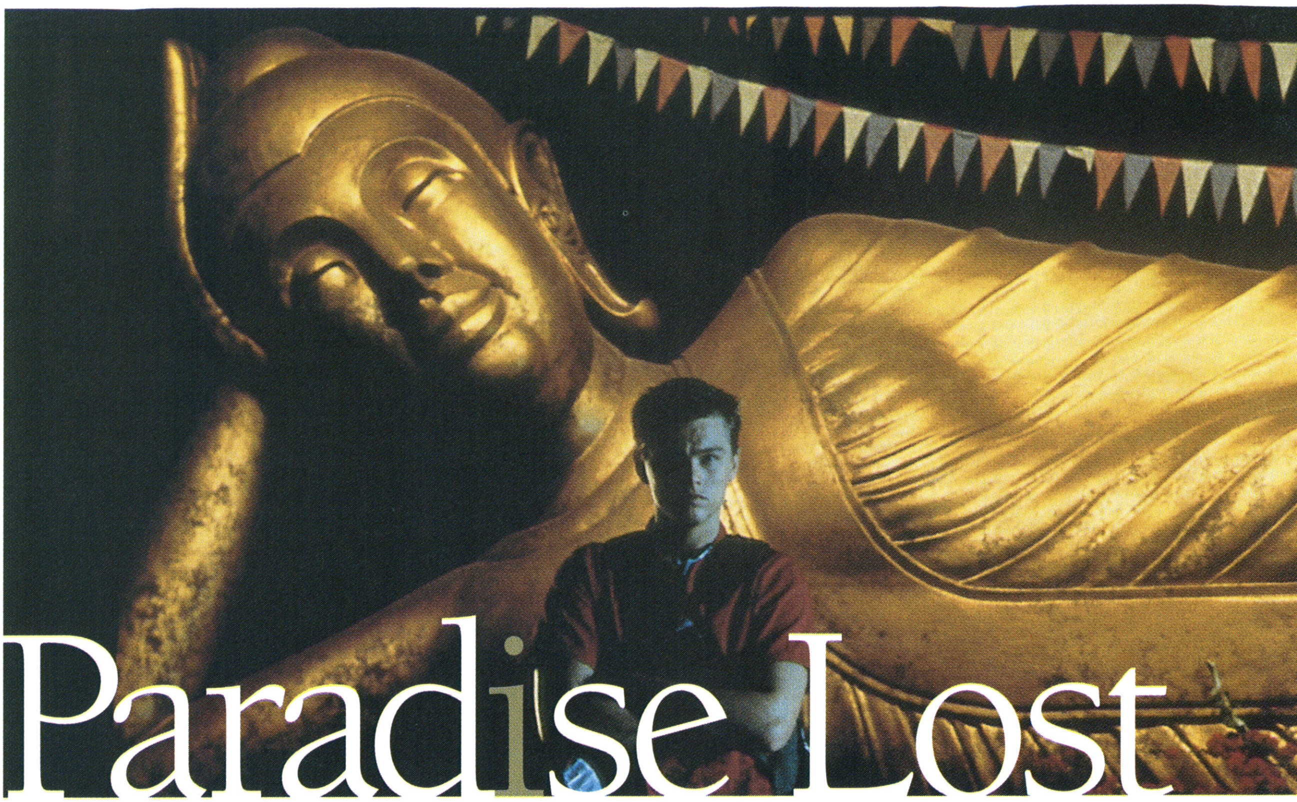


Paradise Lost

Darius Khondji, ASC, AFC travels to Thailand to capture pristine vistas for *The Beach*, a tale of wanderlust run amok.

by Eric Rudolph

Unit photography by Peter Mountain

Many of us have dreamed of discovering an unspoiled, isolated place where we can completely escape from society, and in *The Beach*, this fantasy is brought to life for a trio of young people, who get more than they bargained for when they finally find paradise.

The youthful adventurers, led by Richard (Leonardo DiCaprio), are lured to a supposed island utopia by a map left to them by the drug-addled Daffy (Robert Carlyle), who lauds the spot's splendors before dying under mysterious circumstances. Richard convinces a young couple, Etienne (Guillaume Canet) and Françoise (Virginie Ledoyen), to join him on his search for nirvana. Their journey is fraught with peril: to reach the secret island, the three must swim across the open sea, crawl past armed guards, and leap from the top of a 120' waterfall.

When they finally reach the idyllic beach, it initially lives up to its billing as a heaven on earth, and a group of previous discoverers welcomes the new arrivals into their private society with open arms. Soon enough, the dream turns into a nightmare, and Richard decides he must leave. He quickly discovers, however, that the secret of the mysterious beach is one that its fanatical devotees will guard with their lives. Escape, it seems, is forbidden.

To help him conquer the daunting challenge of filming this wild tale on a island off the coast of Thailand, director Danny Boyle (*Trainspotting*) turned to cinematographer Darius Khondji, ASC, AFC.

Khondji burst onto the Hollywood map with David Fincher's *Seven* (*AC* Oct. '95), which he photographed in a distinctive postmodern style that lent the film a powerful neo-noir ambience. Since then, Khondji has further distinguished himself by shooting a succession of stylish pictures for a list of A-list directors, including Bernardo Bertolucci (*Stealing Beauty; AC* June '96), Alan Parker (*Evita; AC* Jan. '97), Neil Jordan (*In Dreams*) and Roman Polanski (for whom he shot the upcoming supernatural thriller *The Ninth Gate*, which will be covered in the April issue of *AC*).

Khondji's creativity on *The Beach* was avidly encouraged by Boyle. The duo's cinematic adventure features nighttime exteriors lit mainly by gas and oil flames, scant

Photos courtesy of 20th Century Fox.

use of day exterior fill, strategic force-processing of the picture's film stocks, the use of Arriflex's VariCon film-flashing device, and a 40 percent application of Technicolor's ENR silver-retention process at the printing stage.

Khondji recently spoke to *AC* by telephone from his home in Paris, as he was enjoying a weekend break from color-timing sessions for *The Beach.*

***American Cinematographer*: What were the biggest challenges involved in making this film in Thailand?**

Khondji: Both conceptually and practically, the production was quite well-prepared. In terms of the shooting itself, there were no catastrophes, only small problems. However, a minority of local people who were against the government protested against our presence on the island. The protesters feared that we would ruin the micro-ecology of the island. In truth, they cared more about overthrowing the politicians in power than about ecological causes. We hired a really good team from New Zealand to be our 'green specialists' and take care of the trees and the ecology, and that aspect of the show was quite thoroughly supervised. We actually cleaned up the beach, which was dirty and polluted before we got there.

How did the producers deal with the protesters?

Khondji: We had to play it low-key and be respectful of their concerns; the producer, Andrew MacDonald, was very careful in dealing with them. It was a difficult situation to handle, but he did a great job.

Was the whole film shot in Thailand?

Khondji: Yes. We shot the first four weeks on a smaller island, and the rest was shot on the southern part of the main island, Phuket. Most of the work was done on location, but scenes set within the long house, where the people live on the island, were shot on a stage in Phuket. We transformed a big shoe factory into a soundstage. However, 50 to 60 percent of the film takes place outdoors.

Our main problem was an unanticipated monsoon that arrived earlier than usual in Thailand. We began shooting in bad, overcast weather when there should have still been sun most of the time. The overcast worked really well for some scenes, though — especially those in which the story takes a darker turn. On overcast days, we shot some very dramatic scenes, such as the funeral of a man who dies on the island. We liked the mood of the light for that scene quite a lot.

The main challenge of working in conditions such as this — in the jungle and on the beach — is trying not to let nature overpower your work. If you do, location work becomes too much of a hardship. You have to manage yourself and be fluid and flexible with nature. You have to react in the Japanese way: be like bamboo and bend, and be humble with nature. That's a very sound philosophy, because the sea and the elements are much stronger than we are.

You have to work with nature in a comfortable manner — you mustn't start thinking of how hot it is, or how the mosquitoes are diving for you! You must feel the nature and work with the light the way it plays in

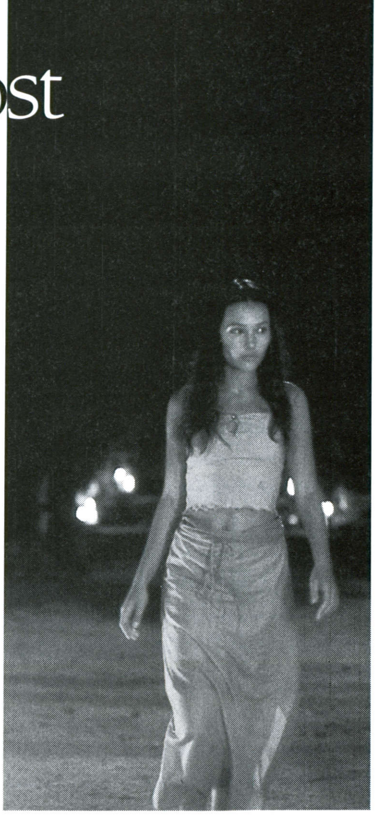
Opposite: Seeking spiritual enlightenment in Thailand, Richard (Leonardo DiCaprio) instead discovers the dark side of human nature. This page, top: Richard tends to a skiff at sunset. Notes Khondji (bottom, with director Danny Boyle), "Sometimes when the light starts to fade, it can be a magical moment. You can open up [the lens] and play a whole scene in that light."

the jungle, rather than fighting it. Sometimes, when the light starts to fade, it can be a magical moment. You can open up [the lens] and capture the remains of the light. If you [work with nature,] you can play a whole scene in that light.

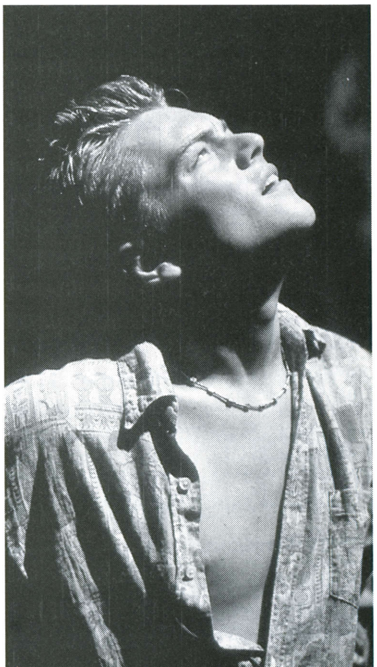
What were your inspirations for the overall look of the film?

Khondji: During preproduction, we screened and discussed various movies shot in the jungle and other locales. We watched a lot of films, like *Apocalypse Now, Lord of the Flies, The Piano* and *Deliverance*. However, the overall look of a film always comes from the narrative, from the script. This film is very dramatic, but it is also really fun and high-spirited. It was important to convey that in terms of light, color and low-key and high-key imagery. I felt that it was important not to make the look overly dramatic; the script offered both comedy and drama, and I didn't want to let one mood take precedence over the other.

I also recalled images from American films shot by [ASC] cameramen like Conrad Hall, Haskell Wexler, Gordon Willis and Vilmos Zsigmond during the Sixties and Seventies. The films they shot back then are the ones that excite me the most at the moment, in a photographic sense. Those four cinematographers really changed the look of cinema, and in Europe we regarded their films with awe.



Françoise (Virginie Ledoyen) captivates Richard during their travels together.



For me John Huston's *Fat City*, photographed by Conrad Hall, is a very important film in terms of photography. His lighting in that film is almost political, in a sense. There is a truthfulness to the lighting in his early films that I really admire.

It's ironic that European cameramen of your generation were inspired by these great U.S. cinematographers, because it's generally assumed that they drew *their* original inspiration from an earlier generation of European films.

Khondji: They did, but of course they then had a powerful influence on European cameramen of the post-New Wave era. We looked at their films as the most inspiring work; we are all the children of these masters.

How much artificial light were you adding to your day exteriors on *The Beach*?

Khondji: I tried not to light exteriors at all. I used big frames for

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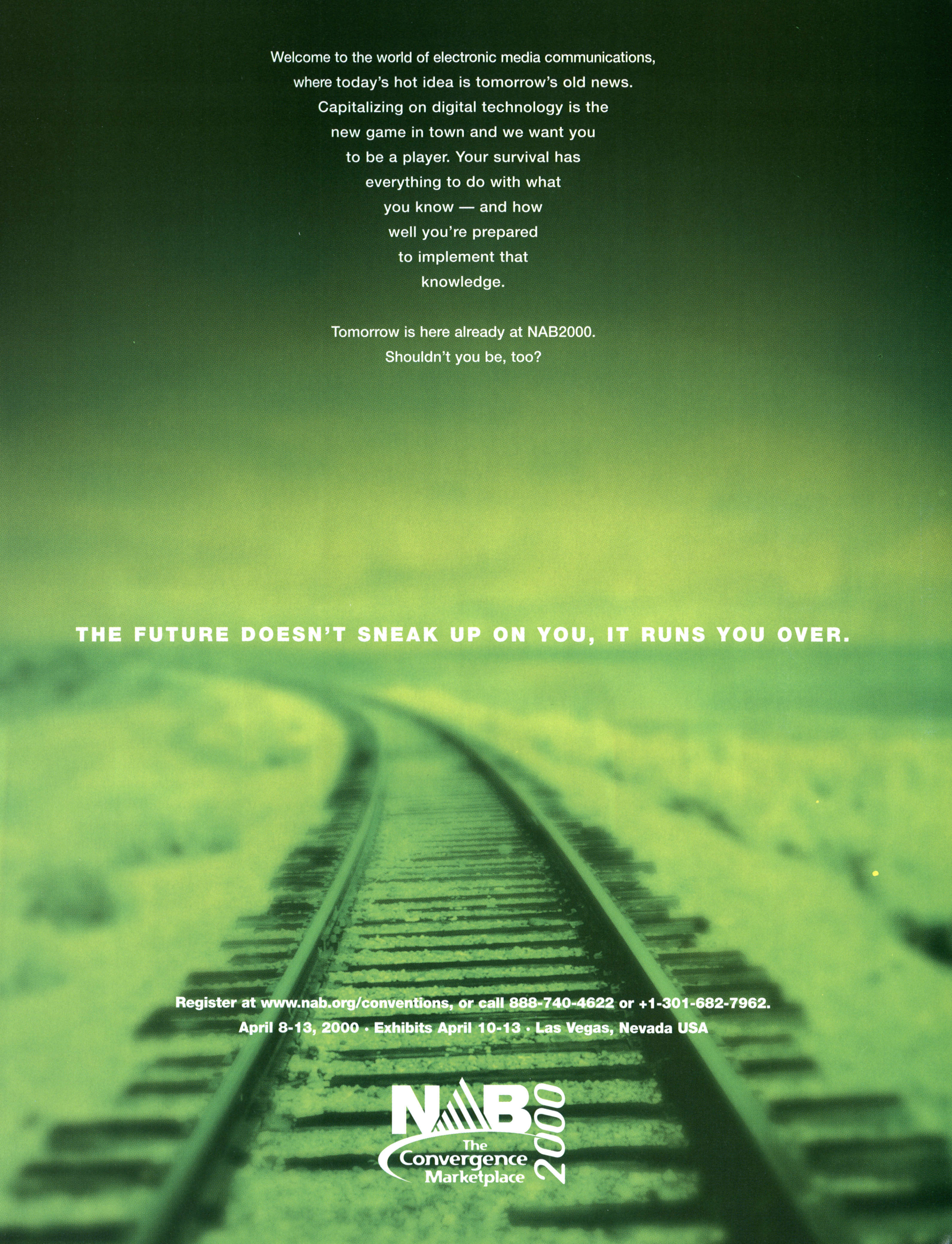

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sun control and bounce, and I deployed a lot of big black panels for negative fill. It worked most of the time. I don't like to use artificial light outside; instead, I like to use negative fill to create some contrast. Bear in mind that I had Technicolor's ENR process behind me, which is a fantastic tool for adding contrast and drama to a film.

How much ENR did you apply to the prints?

Khondji: We used ENR at a level of about 40 [IR reading]. We had some day exteriors with sunny blue skies, and the photography in those scenes is almost hyper-realistic. We also had scenes that were shot on overcast days, and the ENR process works very well with that type of situation, just as it works well for night interiors and exteriors. We had to be careful shooting on our sunny days, though, because ENR can desaturate the polarized quality of the colors. On some of those shots, we had to do some very subtle digital work to enhance the bright exteriors.

I really want to do a whole film digitally, by scanning the entire negative, performing subtle digital work on the colors, and then printing. I was hoping to do that on *The Beach*, but realistically, the time is not yet right for that. Instead, I used techniques like ENR to control the colors and contrast.

There are one or two wide shots in the film where we manipulated the sky completely, but subtly; you can hardly tell where we did it. The digital work was done in London at Framestore, on Flame stations. When you have absolute freedom with digital technology, and you can work endlessly on colors, the temptation is to go over the top and colorize too much. With digital manipulation, it's very important to be as subtle as possible.

Did you use any other unusual processes on *The Beach*?

Khondji: I flashed the film during scenes where we needed less contrast. We used an amber filter in the Arriflex VariCon on-camera flashing device in order to flash and add some warmth to the images, which is a technique I first used on *Delicatessen*. For this film I used the VariCon lightly, mostly on the 1/8 setting. I knew the ENR wasn't going to be applied too strongly, and at first, I actually wasn't sure if we were even going to use ENR. I really wanted to leave it open so I could talk about it with the director, Danny Boyle.

What kind of collaboration did you have with him?

Khondji: My working relationship with Danny was one of the best I've had on any film. He asked me to operate the camera, so I did that on the entire film — something I haven't done since *City of Lost*

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Children. I began using an operator on *Seven* [Conrad Hall, Jr.] because David Fincher wanted me by his side at all times. David kept me closer to him and the camera and the actors, because he didn't want to rely on the video monitor.

Every director has his own methods, and it is important to respect that and make them comfortable before you start. The wonderful experience of working with Danny has actually made me somewhat hesitant to move on to another project! I've always been picky about the directors I'll work with, but after working with Danny I think I've become even more particular. He and I were close, and we really handled things together. The look of the film is due to his input. It is very good when I feel that the look of the film comes from the director. I push directors to add their input to the general look of the film. I choose films carefully, and all of the directors I work with are really interested in the photography.

When I did *The Ninth Gate* with Roman Polanski, just before *The Beach,* I found that he was very interested in every single shot. Danny Boyle was also involved in every scene, in terms of the mood and how he wanted to tell the story. About two months before production began, he showed me a big black reference book of photographs and drawings. Every main scene had its own image in the book. When a big scene was coming up I always asked Danny, 'Can I look at the book?'

How did the task of operating the camera affect your work?

Khondji: It helped to link the lighting very closely with the composition. Operating the camera made me want to do more simple, organic photography, and to tailor the lighting more intimately to the story. It was a bit scary at the beginning, though; I wasn't sure I would be able to pull it off, but after the first week it was fine. Danny kept encouraging

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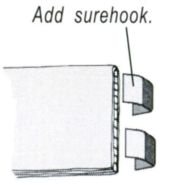

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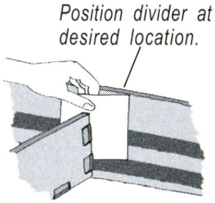

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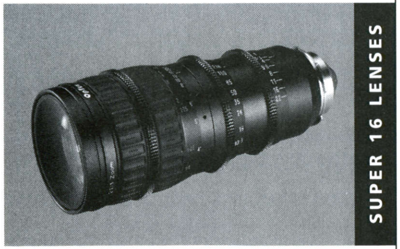

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Above: Thailand's idyllic vistas initially seem like a sanctuary, but soon take on the aura of an open-air prison. Right: Bathed in a red neon glow, Richard observes street life on the main island.

me by saying that he liked the compositions and the shots. He gave me good input, and he puts a lot of energy into every shot.

It was exciting to work like that, but I still believe in using operators. If I were to do a big epic tomorrow, I would better off supervising two operators with two cameras, but the photographic process on this film was more like reportage. I was in the jungle and close to the camera, so there was no reason to add another person to the process. We had a Steadicam operator on the show, but we didn't use him much; we did more handheld shots, a more physical style of shooting. A good portion of *The Beach* was handheld, because I felt that approach was appropriate for this film. Graham Hall was the focus puller on the A camera, and I let him operate a lot of the B-camera shots. I really trusted him; he had a very good eye, and provided the film with a nice energy.

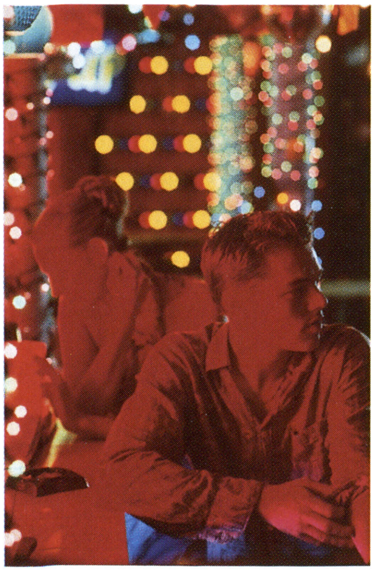
We've discussed your approach to the daylight scenes. What kind of look were you after for the film's nighttime sequences?

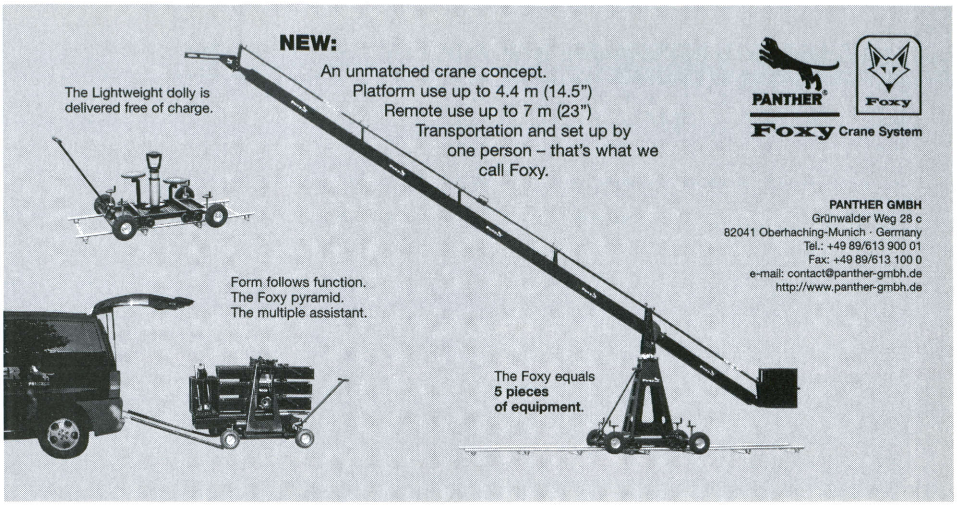
Khondji: We kept those scenes very warm. Instead of using lights, I was using actual flames to light the actors in night exteriors. I put my gaffer, Alex Scott, together with the physical effects expert and let them figure out how to do it. Some of the flames were gas-powered, some were oil, and we also used candles.

We controlled those sources by eye, and by using the height of the flames as our a point of reference. We liked the fluctuation, which caused overexposure and underexposure. We didn't use flags; we left the flames as open as possible.

When I went to the island, I decided that the lighting should be more organic, less electrical, and less technical. When the film's characters are in the long house, they have no electricity, and when they are on the beach they only have fires. I wanted to go back to this image I had in my mind a Western-type scene, with cowboys around a campfire. Some of the Sixties and Seventies pictures shot by the great cameramen I mentioned earlier have scenes in which characters are illuminated by small fires built at exterior locations. I wanted to lend this picture that same feeling of reality.

How did you approach lighting the interiors?

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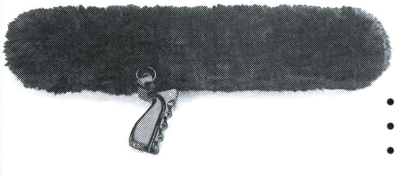

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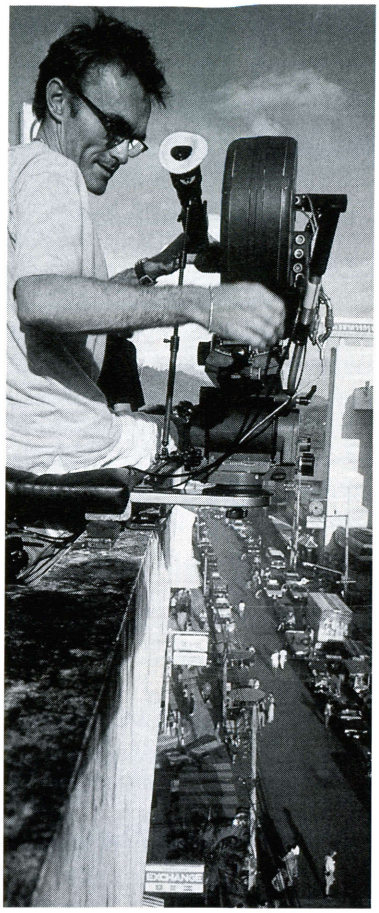

Director Danny Boyle sets up a bird's-eye shot of a Thai thoroughfare.

Khondji: I frequently used Chinese lanterns, which I began doing on *Delicatessen*. I always use very strong bulbs inside, and I dim them down all the time. Alex Scott made some special tubes of CTO gels, and we slipped them over the bulbs. We used 2K and 5K bulbs, always dimmed down, never over 60 percent of their capacity. The light from the Chinese lanterns was therefore naturally warm all the time, but we also added the CTO gels.

To my mind, the lighting for this movie breaks down into two parts. One part involves the scenes that take place back in civilization on the main island, where we were dealing with neon signs, shop lights, and really gritty street lights. In those urban sequences, the lights have a green, gritty edge. The look is very strong and primary, with colors like red, blue and green. The red was mainly the result of gels on whorehouse windows. At the beginning of the story, there's a lot of green in the hallways of the hotel where the three young people are staying. To add a slight wash of green to the characters' faces, I added green gels to the lights, which I love to do. When you add the ENR process, it creates a very nice contrast between the black and the green.

I used Kino Flos a lot for the urban scenes; along with the Chinese lanterns, those were my main lighting instruments. Kino Flos are one of the best lights, and one of my favorites. However, Kinos have a such a naturally glamorous quality that they sometimes give off too nice a glow. In some movies, you can feel that the actors are lit with Kinos, and I try to avoid that. You have to be careful to give those lights some grit, some realness. You have to put things between the Kino Flos and the faces, or put the Kinos at an edgy angle so they look as if they are naturally surrounding the actors. I used nets and cutters, as well as movie greenery and natural shapes, to break up the quality of the light.

For the long house on the stage, I would use a strong 18K light placed outside the structure to simulate natural light filtering into the entrance through leaves and trees. We would sometimes add some smoke, but I was often flashing the film, and I never use smoke when I'm flashing.

Were you using a Kino Flo as an eyelight, as you did on *Seven*? In the *AC* article on that film, there's a panoramic shot of you and your operator lighting a close-up of Brad Pitt with a masked-off Kino held close to the camera.

Khondji: That was an unusual case. Normally I boom in a Chinese lantern to get some eyelight, but I didn't use much eyelight on *The Beach*. I wanted to play things more

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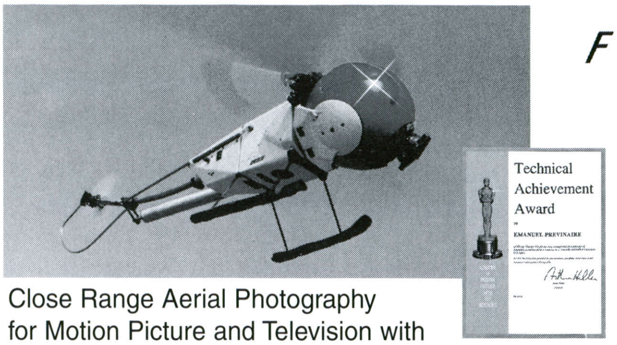

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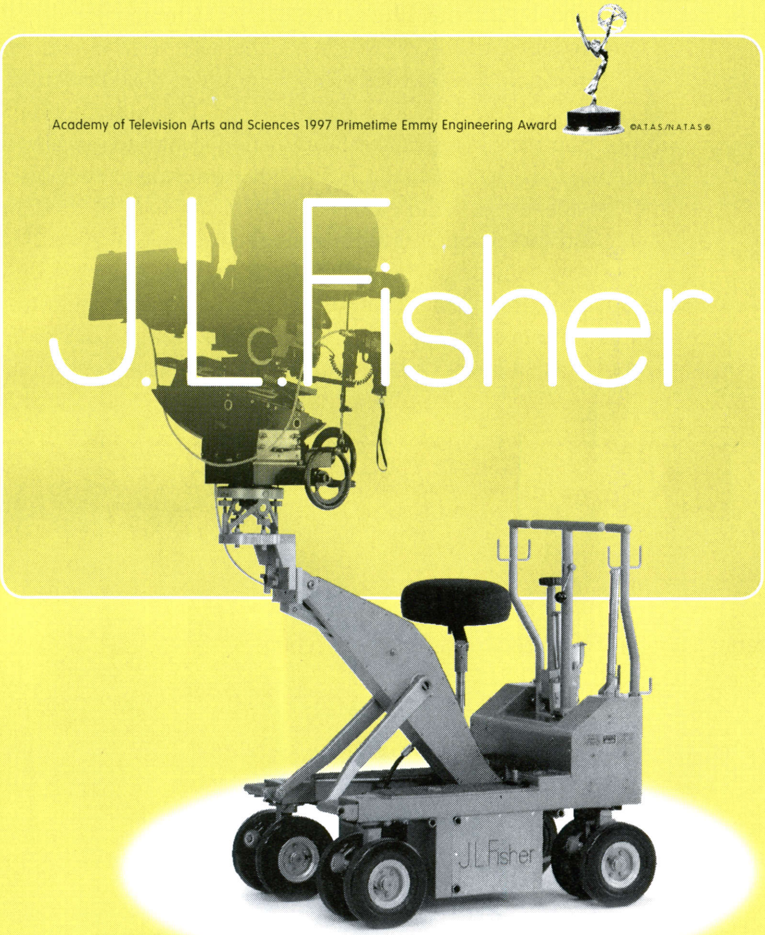
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We've Moved

Khondji peers over his camera while framing a shot of "paradise."

naturally on this film.

How did you approach your lighting for the film's star, Leonardo DiCaprio?

Khondji: He works well with all types of lighting. I lit him according to the way his character was changing and behaving. In the beginning I made him look more nice and young and soft. As things got nastier in the story, I made the light much more harsh, more real. There is a general progression in the film toward a harsher style of light with more contrast and more violently red light at night. The look becomes meaner. At the start of the story, the island is very idyllic — everything is blooming, and the colors are really nice. Little by little, we play the colors to be a little more cruel, building up to the point where they almost hurt at the end! We planned that out ahead of time, and did it on the set, in the timing and digitally.

What is the most important consideration for you in lighting?

Khondji: I believe that cutting the light is important, but I believe mostly in the direction of the light.

The most important questions in my work, technically, are 'What is the direction to the subject and to the camera?' and 'Where is the energy of the light coming from?' I think a lot about where we place the camera for the storytelling, and then where the light's energy should be directed. That's a crucial consideration to me. I always ask myself, 'Is the energy of the light coming that one direction because it looks better, or because it is more proper for the story?' Lately, I've been trying more and more to place the light where it is more proper for the story. At the same time, of course, I aim for the best look.

Generally, these two considerations work together. If they conflict, then you really have to think twice about the issue. Normally, the best direction is the most natural. Sometimes, the storytelling will dictate that the light should come from point A. However, that will occasionally look too flat and it won't mean anything. There is a second narrative line that is more important, a second logic — the logic of where the light works photographically. Most of the time it is the first logic, the logic of the story, that works best. But you get the best look when storytelling and photography work

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together.

You've talked in the past about how important you feel it is to choose the right lenses for each film. Which brand did you use on *The Beach*?

Khondji: I worked with great lenses, the new Cooke S4 series, on Arriflex cameras. We rented our package from Arri Media in London. I used them for the first time on a Madonna video called 'Frozen,' directed Chris Cunningham. I've used them constantly since then, except for when I've used Primos.

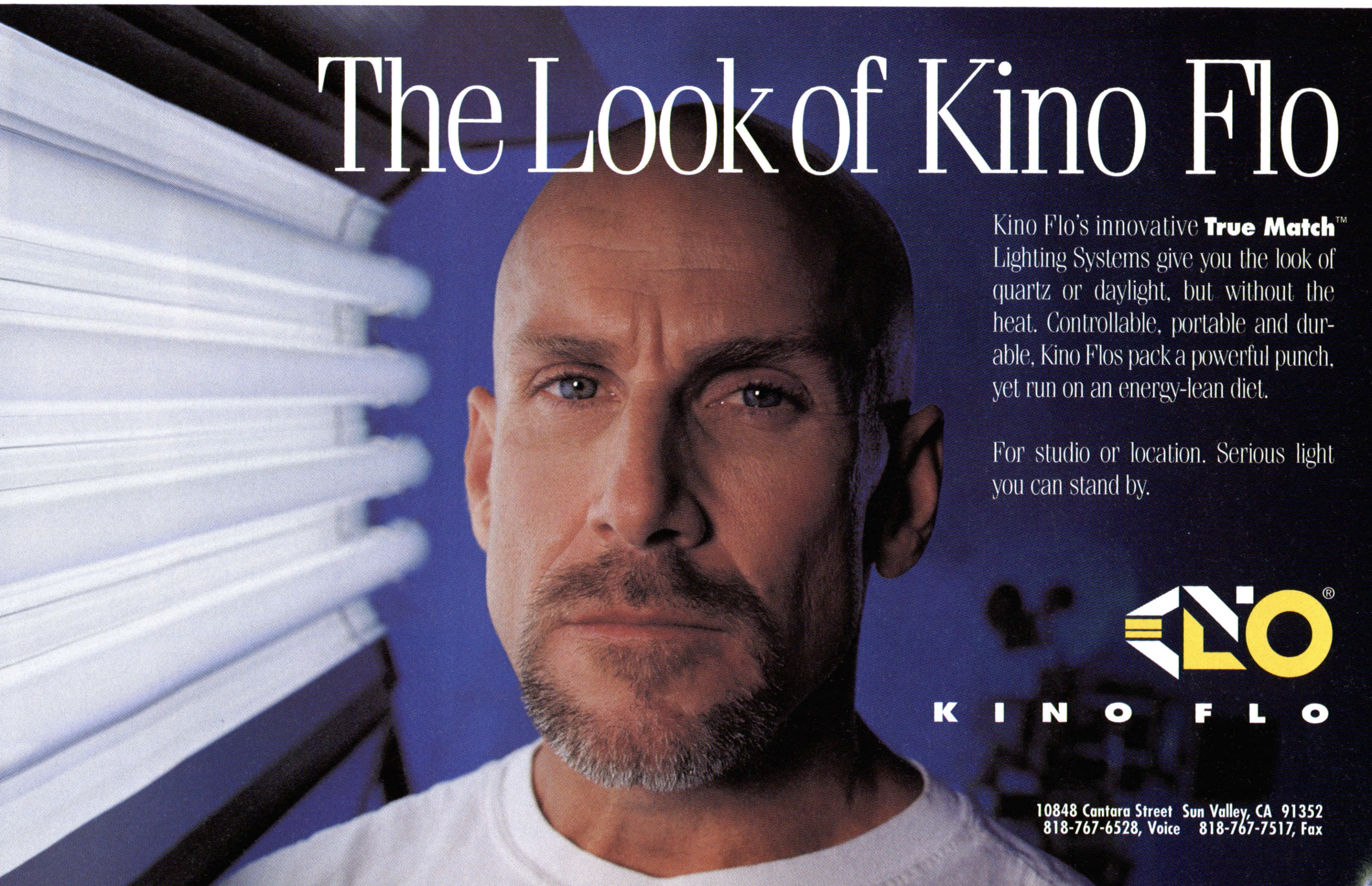
The Cookes are not better than Primos, but they are different. They still have the sensuous quality and the softness of the older Cookes, and they maintain the same quality in the rendering of colors. However, they also have the modern quality of the Primos, thanks to anti-flare coating and very good calibration.

The tale's travelers chat around a campfire. Khondji notes that his use of natural sources was partially inspired by soul-searching scenes from American films of the Sixties and Seventies.

The Primos have a very graphic quality, and seem more sharp on details. The Cookes offer a gentle, nice rendering of the reds and browns. They are not warmer or colder than the Primos, but they render color with a bit less contrast.

You're known for using a lot of different stocks. Which emulsions did you employ on *The Beach*?

Khondji: While shooting day exteriors, I used Kodak's 50 ASA EXR 5245 daylight stock. For interiors, I used the 100 ASA EXR 5248 and a lot of the Vision 320T 5277, which served as my main stock. For low-light scenes in which flames served as



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my keys, and for the gritty urban night scenes, I used the Vision 800T 5289 pushed one stop, and it worked very nicely.

You didn't get too much contrast buildup by pushing and then applying the ENR process?

Khondji: I did get some buildup, but I didn't mind it. If it was a real concern, we flashed the film with the VariCon.

What did you do in the film's timing sessions?

Khondji: Ivan Lucas, who does all of the color timing on my pictures, has been working for two weeks at Technicolor London with Technicolor's Paul Swan. Technicolor London is a terrific lab, and they're really mastering and improving the ENR process.

For me, the timing process is very important. The film can be edited and mixed by the best people, but in the timing I add the last touch to the narrative. I try to help push the audience away from thinking about the photography, and more toward the story and the power of the editing, sound and music.

At the same time, if you do too much in the timing you can destroy a film by smoothing things out too much. You have to shock the audience; sometimes I push this idea in the timing by putting in what I call 'jumps.' As we're screening the movie for timing, we may see a nice exterior day shot that's not powerful enough. I may want to force the audience to squint their eyes, so I'll therefore time the scene so that the daylight is way too bright. Then, when they open their eyes again, they'll see a shot in which people are moving mysteriously in the dark.

You try to increase the visceral response of the audience, in order to get them more intimately involved in the story?

Khondji: Yes. These are techniques that can actually make a movie more successful. I really believe this — it's not just talk. ■

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Saints Above

Toronto and Slovakia serve as settings for *The Third Miracle*, a compelling religious drama photographed by Jerzy Zielinski.

by Bob Fisher

Unit photography by Pierre Vinet

The Third Miracle follows in the wake of such spiritually themed films as *Stigmata*, *End of Days* and *Dogma* only in the sense that it explores religious rituals and beliefs. The film offers no thrills, chills or demons lurking in the shadows, but instead asks the audience an earnest question: Do you believe in miracles?

The film chronicles the personal journey of Father Frank Shore (Ed Harris), a priest whose specialty is investigating miracles for the Vatican. He is assigned to examine three events that could elevate Helen (Barbara Sukowa) to sainthood, while struggling with his own faith. During his inquiry, Shore is tempted to stray from his vow of celibacy by Roxane (Anne Heche), the estranged daughter of the pious woman he is investigating.

The Third Miracle, independently produced by Fred Fuchs and Steven Haft and distributed by Sony

Photos courtesy of Sony Pictures Classics.

Pictures Classics, is based on a novel by Richard Vetere, who co-authored the screenplay with John Romano. The picture marks the second collaboration for director Agnieszka Holland (*Europa, Europa; Olivier, Olivier*) and cinematographer Jerzy Zielinski (*Powder, Swing Kids, Galaxy Quest*), who previously worked together on *Washington Square.*

Holland and Zielinski both have roots in Poland. Holland was born and raised in Warsaw. She left to study filmmaking at the FAMU school in Prague but returned to Poland to work during the 1970s. In 1981, she migrated to Paris, where she still lives today.

Zielinski was born and raised in a Polish port town that thrived on the shipyard industry. He attended the famed Lodz Film School, graduating in 1975. Five years later, Zielinski earned the Polish equivalent of an Oscar for cinematography and subsequently earned a British Council scholarship that enabled him to study in London. In 1993, he relocated to Los Angeles.

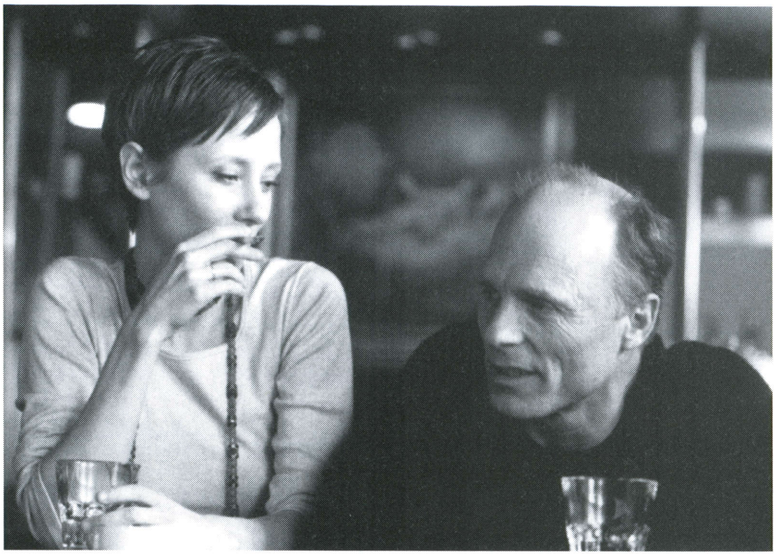
The filming of *The Third Miracle* involved 37 days of shooting on location, mostly in Toronto. The opening scenes, however, were photographed in a Slovakian village.

The following are excerpts of *AC*'s conversation with Zielinski about his work on the project.

***American Cinematographer:* What got you interested in *The Third Miracle*?**

Zielinski: The director, Agnieszka Holland. I also liked the story. It's not a linear story; there are many different layers. Ed Harris plays a very complex character. They call him a 'miracle killer,' because he has discovered that other claims of miracles were not real. He has a lot of doubts, though, because there are often many believers. It isn't easy for him to take their hope away.

Did you previsualize any of the scenes when you read the script?



Opposite: Father Frank Shore (Ed Harris) tests the limits of his own faith while investigating alleged miracles. This page: Roxane (Anne Heche) causes the priest to reconsider his vow of celibacy.

"The framing on this film was sometimes intentionally imperfect. If we shot several takes, and an actor stumbled in one of them, I was always sure she would use that take. At the same time, Agnieszka wanted everything designed and under control. That may sound like a contradiction, but it's not."

— cinematographer Jerzy Zielinski

Zielinski: I could see some scenes clearly in my mind, while others were a blank page. I knew Ed Harris was in the lead role, but I couldn't see the other faces. Until I can see the locations and actors, I can't totally define the look. It's like a crossword puzzle. You start with a couple of ideas and then begin filling in the gaps.

How did Agnieszka Holland first express her ideas to you?

Zielinski: During my initial conversations with her, we decided that the movie needed a kind of kaleidoscope of looks. We wanted to help the audience separate flashbacks from reality, and also to create a texture for the film.

Agnieszka also showed me a couple of movies. One was a black-and-white Czech film made in the 1960s. There wasn't too much dialogue, just some images with a very contrasty look and a lot of camera movement. What she liked was that it didn't look over-rehearsed. She didn't want the photography on *The Third Miracle* to be too glamorous.

How did you translate that goal into images?

Zielinski: She wanted the film to have a bit of a rough edge, and she also did not want to over-cover scenes. We design shots, and she likes to use one camera, so there isn't a lot of cutting back and forth. She loves imperfections, because they make everything seem much more believable and realistic. The framing on this film was sometimes intentionally imperfect. If we shot several takes, and an actor stumbled in one of them, I was always sure she would use that take. At the same time, she wanted everything designed and under control. That may sound like a contradiction, but it's not.

How did the film's locations affect your visual scheme?

Zielinski: The original script set the story in New York during the

Wracked with doubts about his mission, Father Shore faces further anxiety when his evidence is reviewed by a tribunal headed by Archbishop Werner (Armin Mueller-Stahl, below).

early 1980s, but the setting was switched to Chicago. Some scenes take place in run-down neighborhoods with graffiti on the buildings. However, there are also some beautiful interiors where the clergy holds their meetings. There is a mix of environments that sometimes stand in opposition to each other.

Why did they change from New York to a Chicago setting?

Zielinski: We couldn't find exterior locations in Toronto that matched New York's architecture. There was also a scene in St. Patrick's Cathedral, and we couldn't find anything like that location. The writers, producers and Agnieszka felt that Chicago was less identifiable. Too many people know the New York skyline.

> **"Filmmaking has changed a lot, and so has the way we tell stories today. We are routinely doing things today that the audience would have rejected 10 to 15 years ago. Maybe it is because they are use to seeing different looks on television and even computer screens."**
>
> **— cinematographer Jerzy Zielinski**

Given all of the shooting that's happening in Toronto, did you have any problems assembling a crew, or getting the camera and lighting packages you needed?

Zielinski: There *was* a lot of production going on, and I think there was a bit of a crew shortage. I always prefer to work with my own crew, but unfortunately that wasn't possible on this project. Fortunately, we managed to recruit a good crew, and everything I needed was available in local rental houses. My biggest limit was the budget — what a surprise... [Laughs.]

The film's opening scene takes place in Slovakia. Can you tell me a bit about what you were trying to accomplish with it?

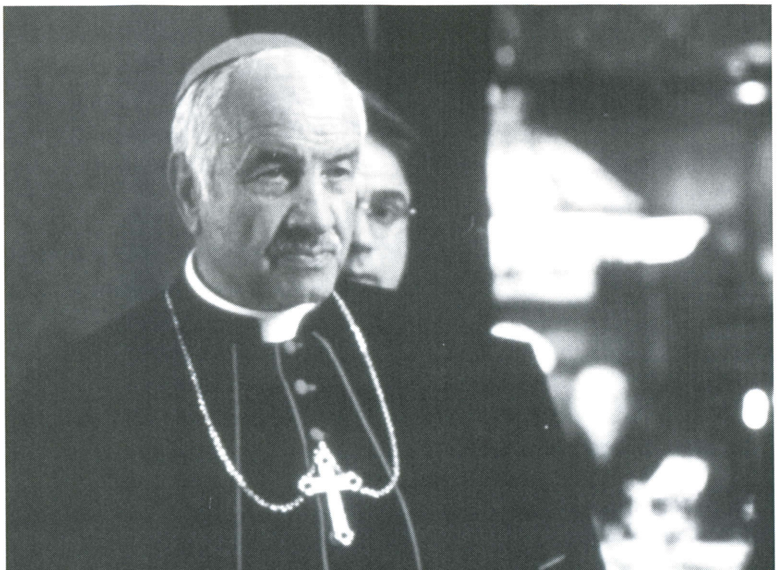
Zielinski: It's a three- to four-minute scene that looks like grainy and desaturated documentary footage from World War II. There are a couple of effects shots, because we had to superimpose some warplanes into the sky. In the opening scene, there are only two characters that you see again in the movie. One of them is played by a German actor, Armin Müeller-Stahl, who was in Barry Levinson's movie *Avalon*. He plays Archbishop Werner, who heads the tribunal that reviews the priest's evidence.

Why did they send you all the way to Slovakia to shoot that three- to four-minute scene without the main actors? Why not shoot it on a stage, or shoot B-roll and digitally composite the characters into the town where the story begins?

Zielinski: They compared costs and the time it would take, but the main reason was that it was very important for this sequence to look like real documentary footage. I think everyone responds to real locations, including the actors and the audience.

What was it like shooting in Slovakia?

Zielinski: It was an exercise in guerrilla moviemaking. We shot some of our flashback scenes in the Super 16 format, and I got the camera and zoom lens from a rental house in Prague. I also used a local crew. I didn't need a dolly or big lighting package. The actors were from Europe, and the extras were locals. The only thing we brought was our film stock, and we shipped that back to Toronto for processing



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Director Agnieszka Holland sought to lend *The Third Miracle* a kaleidoscopic look that would complement the film's non-linear narrative. Below: Father Shore is lured toward Roxane's open arms.

that included bleach-bypass. I recently shot *Galaxy Quest,* a studio film that has hundreds of effects shots, and with today's technology, you can create virtually anything. On some projects, though, it is important to capture the flavor of reality on location.

Why did you choose to shoot in the 1.85:1 aspect ratio?

Zielinski: The film's plot really didn't call for a wider format, and 1.85:1 was a very comfortable way to tell the story. We also had budget constraints, so it was an advantage having spherical lenses with our minimalistic lighting package.

You really mixed up your film stocks for different looks.

Zielinski: As I mentioned, we did some of our flashback sequences in Super 16. For other scenes, we used 35mm black-and-white film, or color stock treated with a bleach-bypass process. Our choice depended upon the scene. We would go from a scene with desaturated colors shot with a handheld Super 16 camera, to 35mm black-and-white shots, to very warm, contrasty images shot with a 35mm camera on a slow-moving dolly. In one situation, we cut from semi-documentary footage, shot on a street in a rundown neighborhood that had terrible lighting, to a beautiful church interior.

Why did you use Super 16 for the flashbacks?

Zielinski: We see those scenes through different people's memories. You can approach that type of material in different ways, with lighting, atmosphere or diffusion. We chose to shoot with Super 16 film and desaturate the colors.

Agnieszka originally had the idea of shooting those sequences with a 35mm camera on a Steadicam. I felt that would be too smooth, so I suggested using a handheld Super 16 camera. I told her that would give us a different look that was a bit rougher. The movement would be different because the camera was physically smaller.

Did she agree to that right away?

Zielinski: No. It took some time to convince her, mainly because of financial considerations. The

producer was worried about additional costs. We needed to rent a different camera package, and we also had to make 35mm blowups of those scenes, which involved some optical work. We shot a few simple tests with a handheld Super 16 camera. She liked the look, and I was able to convince everyone that I only needed a very simple Super 16 camera package for part of the time. They decided it was worth the small extra price.

So in your opinion, the Super 16 scenes were a crucial element in the overall visual scheme?

Zielinski: If you look at them alone, it's pretty straightforward, rough handheld footage. That's been done many times, but the context is what's important. When you intercut those scenes with the rest of the movie, the audience understands that they are flashbacks — the 16mm footage creates that separation for them.

We experimented with different looks throughout the film. We also shot some 35mm black-and-white flashback scenes. I shot some tests of Super 16 scenes with Kodak Double X film. The first dailies were not good enough. There were no blacks, so what's the point of shooting in black-and-white? I spoke with the lab, and they made some adjustments in the process. I underexposed by one stop to get a more contrasty negative, and they pushed by one stop and adjusted the gamma.

Another time, I decided to underexpose the film by two stops. We were shooting late in the afternoon on a dark, rainy day. In the scene, a little girl was walking toward a statue of the Virgin Mary and looking up at it. I think that was one of only two times we placed the camera on a crane. I checked my watch and saw that we only had about 15 minutes before darkness would set in. There was time for at least two takes, so I decided to do the two-stop underexposure. The Double X film

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we were using has an ASA of 200, so it was the equivalent of shooting at 800 ASA.

How does the black-and-white negative work with color print film?

Zielinski: We had to discuss the options. We could have shot color negative and desaturated it. For certain shots, we decided it was better to begin with black-and-white film and time the print so there would be as little color as possible.

Which stocks did you use for the rest of the film?

Zielinski: About 85 percent of the movie was shot in 35mm on Kodak Vision 500T 5279 film. We also used Eastman's EXR 5293 stock for daylight scenes. I like the match between these two tungsten films; there's no problem cutting back and forth. The 93 has a very crisp look, and it's not too pastel. It's a personal choice that's difficult to describe. For the Super 16 flashbacks, I used the Vision 500T film with a bleach-bypass treatment.

Which film lab did you use?

Zielinski: We used Deluxe Labs in Toronto, but we ended up using different vendors to process the Super 16 film, which wasn't the best situation.

How would you describe your lighting style on the film?

Zielinski: Naturalistic. There were extreme differences in the ways we differentiated day from night and interiors from exteriors. The night interiors are very warm, and generally speaking, the exteriors are neutral. I mainly used bounce light combined with Panavision Primo lenses, and I didn't use any diffusion. A movie like this has to look and feel realistic so it will be believable. I trusted my instincts, and Agnieszka liked the results.

How did you approach the church scenes?

Zielinski: We looked for a church with a Gothic atmosphere. I didn't have enough equipment to light a big church, but I wanted stained-glass windows. Eventually, we found a church with a low ceiling, and the windows were pretty low and accessible. The problem was that it had white walls, so I knew we would have a lot of bounce light.

Does the camera have a subjective or objective point of view?

Zielinski: It is kind of voyeuristic, with Ed Harris almost always at the center of the story. He's in just about every scene.

How did that affect your compositions?

Zielinski: We wanted composition that was slightly off balance with people not always perfectly positioned. At the same time, we were telling a story, and we didn't

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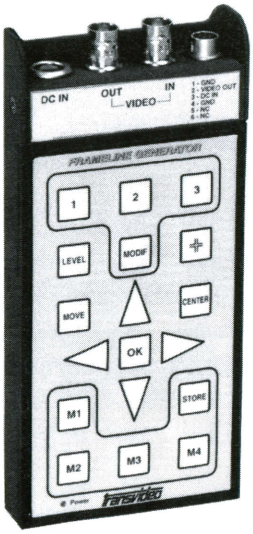

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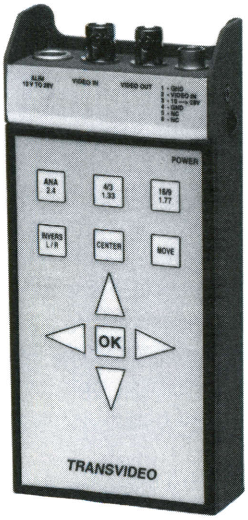

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want to confuse the audience, because then they feel alienated. We just wanted them to feel a little off-center subconsciously.

Did you do anything specific to help Ed Harris convey the character of a priest in crisis?

Zielinski: That mostly came from him and from Agnieszka's staging. I watched rehearsals and tried to figure out how my lighting could support them. Sometimes I'd talk with her about camera positions and moves, but the main inspiration came from Ed. I'd look at his face, and I'd think that we should place a light in a certain spot at a certain angle. Our lighting was organic. We didn't try to glamorize anyone, and we left room for the actors to improvise. An angle that works at one location may not work at another. A film is not strictly about preconceived ideas; you also have to incorporate what you see happening on the set. You have to know when to loosen up and back off.

Did Agnieszka use storyboards?

Zielinski: The whole movie was storyboarded, but it was just a way for the director to communicate and prepare herself for editing. A lot of scenes were shot completely differently than the way they were laid out in the storyboards.

Was the camera on a video tap? If so, how did Agnieszka use it?

Zielinski: We did have a video tap, and her use of it depended on the scenes. If there was less dialogue, she generally watched camera movement and framing on the monitor. If there was dialogue, she was usually standing next to the camera watching the actors' faces.

Did you favor active or static camerawork?

Zielinski: The Super 16 shots in the film are handheld, but the 35mm camera was usually on a dolly. I do like to keep the camera moving, because that's our perception of reality. We are rarely static in the real world; even when we are sitting still, we're turning our heads left and right in order to look at different things.

How do you think the audience will deal with all of the film's different looks?

Zielinski: Filmmaking has changed a lot, and so has the way we tell stories today. We are routinely doing things today that the audience would have rejected 10 to 15 years ago. Maybe it is because they are use to seeing different looks on television and even computer screens. Viewers perception is changing — it is a never-ending process. I think the different looks we used are very subtle, and they speak to the audience more on a subconscious level. ■

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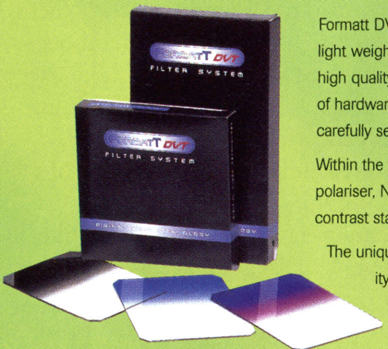

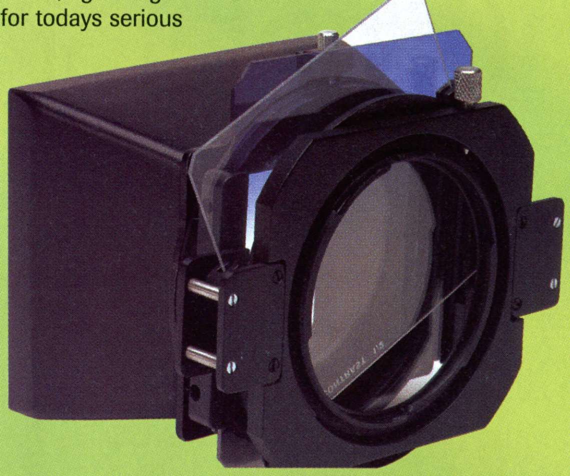

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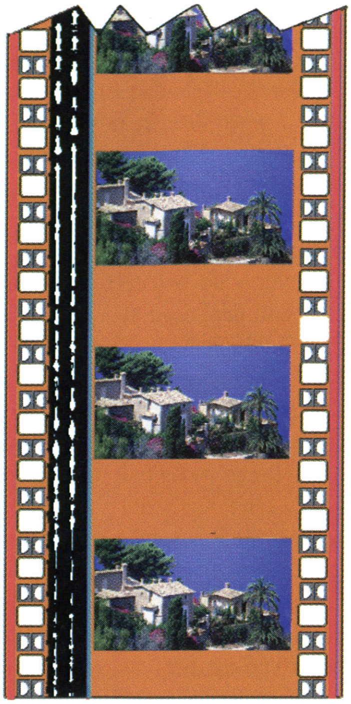
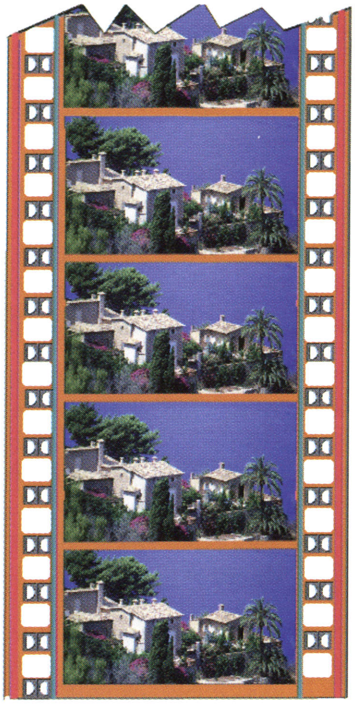




Inventive New Options for Film

AC profiles a unique trio of alternative emulsion-based origination/projection systems: MaxiVision, MultiVision 235 and Univisium.

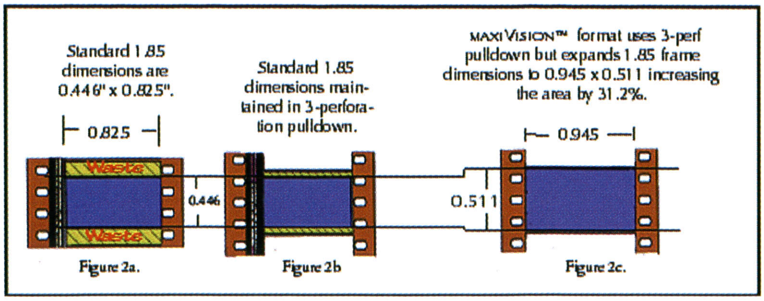
by Douglas Bankston and Jay Holben

In the late 1950s, the midpoint of motion picture's first century, film was threatened by the growing number of television sets popping up in nearly every American living room. Box-office receipts were dropping drastically, and filmmakers needed to differentiate the theater-going experience from home viewing. Hollywood responded with the invention of the blockbuster — epic films that could not be experienced at home. Also added to the mix were vast improvements in color emulsions and in the use of stereophonic sound, but perhaps the most unique element of this aesthetic onslaught was the development of widescreen imagemaking. Filmmakers increased the width of the screen well beyond the Academy 1.33:1 box, creating a much more visceral, immersive experience for the audience.

A variety of exotic proprietary widescreen camera and projection systems soon arose, including VistaVision (*Vertigo*, 1958), MGM Camera 65 (*Ben-Hur*, 1959), Super Technirama-70 (*Spartacus*, 1960), Cinerama (*How the West Was Won*, 1962) and Ultra-Panavision 70 (*Mutiny on the Bounty*, 1962).

The few survivors of this rash of technological innovation were the 35mm 1.85:1 spherical process — now considered to be the "standard" format for both production and projection — and a handful of optical techniques evolved from 20th Century Fox's highly successful CinemaScope process, which achieved a widescreen 2.35:1 image through the use of anamorphic lenses, squeezing the lateral information to fit through a standard 1.37:1 35mm camera aperture. The other systems, generally more cumbersome and expensive to use, largely fell into oblivion as theater-going audiences expanded despite television's assimilation into everyday life.

Now, at the turn of the first century of motion picture exhibition, film is once again seemingly threatened by electronic images. Digital origination, albeit in its current form more corporate propaganda than actual fact, supposedly looms around the corner. However, several groups of creative filmmakers are now unveiling alternative new film formats to reaffirm the notion that emulsion-based imagemaking will continue to thrive.



Standard 1.85 dimensions are 0.446" x 0.825".

Standard 1.85 dimensions maintained in 3-perforation pulldown.

MAXIVISION™ format uses 3-perf pulldown but expands 1.85 frame dimensions to 0.945 x 0.511 increasing the area by 31.2%.

Figure 2a.

Figure 2b

Figure 2c.

This page: Standard 1.85 in a 3-perforation pulldown (Figure 2b) reduces waste by 67 percent over standard 1.85 4-perf pulldown (Figure 2a), providing a 25 percent savings of film. MaxiVision Cinema Technology's format (Figure 2c) maintains the 3-perf savings and expands the frame area further by eliminating the analog soundtrack and increasing the image size 31.2 percent, resulting in even less wasted emulsion space. Opposite: The *projected* image size remains the same as in standard 1.85, but because the MaxiVision frame dimensions are larger, a lower-magnification lens is required to fill the same screen size, resulting in enhanced image clarity.

MaxiVision Cinema Technology

Using various new production and postproduction tools, filmmakers have made significant strides in their efforts to create dynamic imagery that will dazzle moviegoers. But audiences around the world are rarely exposed to these mind-boggling big-screen visions at their best, because the images are often either blurry, jittery, dirty, scratched, not bright enough — the list goes on. In short, despite recent attempts to raise the standards of projection at the multiplexes (including Kodak's ScreenCheck Experience program), most films look only as good as ill-framed, out-of-focus, underlit projectors allow them to be seen.

This dilemma is one of the main "film is dead" arguments raised by the proponents of digital projection. However, one thing to keep in mind is that while digital projection has a resolution of 1280 x 1024 lines, and the fast-approaching 1080i HDTV is 1920 x 1080, neither can visually match film's 4850 x 4850 lines of resolution per inch. As a result, Academy Award-nominated editor Dean Goodhill (*The Fugitive*) recently unveiled an alternative low-cost, emulsion-based solution that filmmakers and exhibitors should take a close look at before going binary.

Working closely with Ty Safreno, president of Trust Automation in San Luis Obispo, California, Goodhill and co-founder/film producer Don Behrns have developed MaxiVision Cinema Technology, a complete, patented film system that improves upon well-established film theories and facts to modernize archaic film exhibition technologies — with minimal impact on the current filmmaking infrastructure.

The MaxiVision format uses 35mm film more efficiently by taking advantage of the space that already exists on the emulsion, reclaiming the area squandered on the analog soundtrack that's printed on one side of the film next to the perforations. With the advent of digital sound systems, the analog track has been largely rendered obsolete. Currently, every release print is delivered with three digital soundtracks imprinted on the film: the DTS control track found next to the analog track (controlling a synchronous CD recording), the eight-channel SDDS tracks found on the shoulders outside the perforations, and the Dolby Digital tracks printed between the perfs.

Of course, discarding the analog soundtrack would require a theater to have more than one digital sound reader for backup purposes. MaxiVision doubles the DTS control track, placing one on either side of the image for the sake of redundancy. Dolby and SDDS tracks remain in their established places. The digital tracks default to each other in case one fails.

MaxiVision also recovers wasted space *between* frames found on standard 1.85:1, 4-perf release prints. Says Goodhill, "Thirty-seven percent of the film that goes through the camera and projector is wasted. It appears that somewhere between $189-220 million a year is wasted because of this. In other words, the film runs through the projector at 90' a minute, but the audience only sees 52' of it. I realized we couldn't improve picture quality as long as there was that much waste."

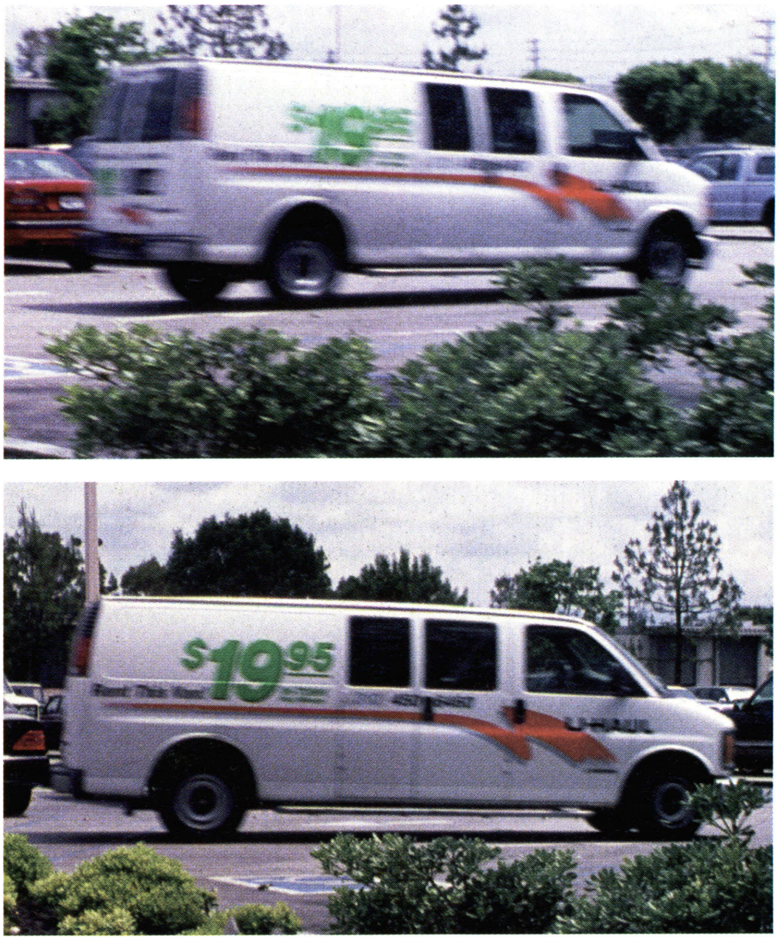
This valuable reclamation of the frame's "real-estate," coupled with a 3-perf pulldown, allows MaxiVision to expand its image dimensions to 0.945" x 0.511", making the format's image area 31.2 percent larger than the standard 1.85 frame — but in 25 percent less actual space. With this larger frame size, a lower-magnification projector lens is required to fill the same-size screen, resulting in a crisper image.

Filmmakers can take advantage of the larger MaxiVison frame at 24 fps, or they may opt to further intensify their imagery with MaxiVision48. In this permutation, both the camera and projector run at 48 fps, a speed-increase that greatly expands image clarity by capturing more motion information. In 1929, film got locked into 24 fps as a cost- and emulsion-saving measure with the arrival of talkies. It was the minimum speed required for intelligible analog sound on film. The onset of digital audio has all but wiped out this phantom barrier.

At 48 fps, an extra stop of lighting is needed during photography, but images are captured with startling clarity that results from a faster exposure. Since more frames are recording action, motion blur is reduced to a level closer to what the human eye is accustomed to in reality, eliminating the strobing and blurring effects created by subject movement or panning. The higher frame rate also significantly increases apparent depth of field creating a nearly-3-D look.

Director of photography Dean Cundey, ASC has seen a comparison between ordinary 24 fps and MaxiVision48 filming and projection. "The MaxiVision48 looks a lot

Inventive New Options for Film



MaxiVision48, in which images are recorded at 48 fps, captures images with increased clarity and depth of field, and less motion blur, as compared to standard 24 fps cinematography.

sharper," Cundey said during a taped interview for a June 1999 segment on MaxiVision for critic Roger Ebert's syndicated show *At the Movies*. "There are certain artifacts, I guess you'd call them, that we get used to in 24-frame projection that are sort of fixed by MaxiVision. It's going to be sharper, brighter, steadier — a lot of things that just make a film more vivid for an audience."

Agrees Goodhill, "Not only does MaxiVision48 afford the opportunity to make the picture look so much better, but it opens creative doors to filmmakers. All of a sudden, the restrictions on the way you stage action are lifted. You can pan the camera. You can move actors. You can move objects in ways that you could never move them before without having the image strobe, and you can capture, literally, twice as much of the actor's performance."

Distinguished director Martin Scorsese also lauds the possibilities that MaxiVision presents: "I'm convinced that the enhancements to feature film production and exhibition MaxiVision offers will provide challenging new creative opportunites to me as a filmmaker, as well as a significantly enhanced experience for the motion picture audience."

Modern production cameras can easily be converted to MaxiVision's format and 48 fps frame rate with slight, reversible modifications.

Photography and projection at 48 fps would normally require the use of more film — twice as much, in fact. However, since MaxiVision renders its larger frame in 25 percent less space than standard 4-perf 1.85, only 50 percent more film is needed. Visual effects costs would escalate as well (because there would be twice as many frames to scan, alter, render and record), but if a film is on a tight budget, the flexible MaxiVision format allows filmmakers to photograph effects sequences at 24 fps while shooting the rest of the film at 48 fps.

How could a film constructed of different frame rates be shown to audiences? Via the MaxiVision digital Switchable Format Projector (SFP).

Automatically recognizing any necessary changeover, the SFP can switch from 48 fps to 24 fps and back again during the projection of a film, in mid-scene if necessary, any number of times. It can also accommodate these running speeds in a variety of formats (including standard 24 fps 4-perf 1.85, 24 fps 3-perf 1.85, the 24 fps 3-perf MaxiVision format, MaxiVision48, and even 24 and 48 fps 2-perf), once again minimizing the impact of MaxiVision on the current film infrastructure. This electronically switchable format capability provides filmmakers, distributors and exhibitors with innumerable options.

"MaxiVision48 can create the atmosphere of special excitement about going to the movies that will be necessary to get people away from their increasingly compelling home entertainment systems and out to the theater, " Scorsese attests.

To allow MaxiVision48-shot films to be screened at 24 fps in theaters that don't have an SFP, MaxiVision is working with Santa Monica-based Digital Magic on a digital transformation process. Since only 24 of the 48 frames would be printed, motion blur found in 24 fps cinematography will be algorithmically created between two frames.

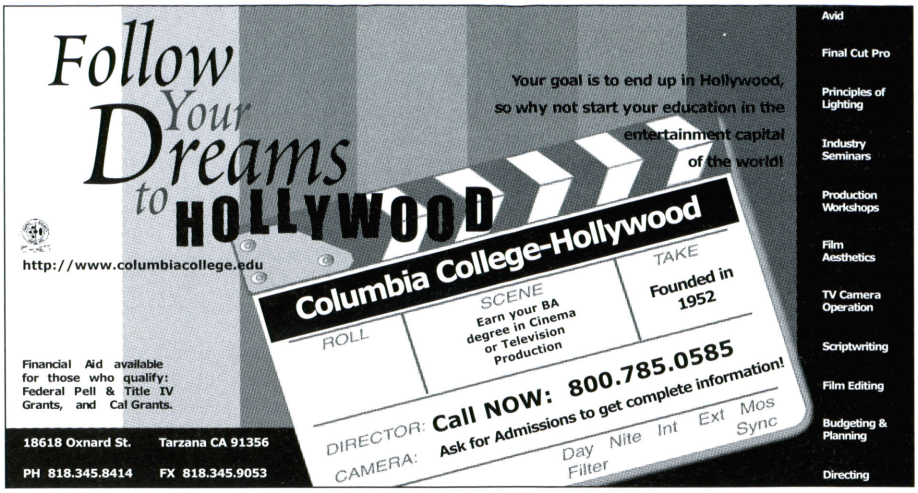
A few specific projector and format details have yet to be finalized, but Goodhill notes that "the critical pieces are in place," while acknowledging that "some subtleties need to be addressed." One of these finer points includes experimenting with increased footlambert levels.

Engineers at Optical Research of Pasadena, the same group that repaired the Hubble Space Telescope, are experimenting with a system that will shift the optical center of the radiant lamphouse in order to automatically adjust between standard formats and MaxiVision48, allowing the use of higher footlambert levels when the film is running at 48 fps. MaxiVision will work closely with filmmakers, particularly cinematographers, to develop a consensus about how bright the projector should be.

The brightness issue also comes into play with an increased frame rate. The MaxiVision SFP uses a computer-controlled, double-bladed, counter-rotating shutter, whereas standard projectors use a single-bladed shutter. Standard 24 fps projection shows the audience *48 images* per second, for an images-to-frames ratio of 2:1. Each image is presented in two flashes of light. This is done to better accommodate the persistence-of-vision phenomenon (in which the brain is fooled into thinking it is seeing motion from one image to the next). Any light pulse rate slower than 48 can be picked up by the eye, and perceived as flicker. At 48 fps projection, the SFP's frames-to-images ratio is 1:1, so the persistence-of-vision requirement is met, yet a *new* image is seen in each light pulse.

However, if the SFP's lamp brightness/footlambert output is increased, flicker may again be perceptible at 48 fps while projecting onto a very large screen, demanding a step up again to a 2:1 images-to-frames ratio, or 96 light pulses projected per every 48 frames. MaxiVision will work with cinematographers to solve the brightness/frame-rate conundrum.

The MaxiVision format requires a projection lens that is 31.2 percent longer than normal, because the frame size is 31.2 percent larger. Optical Research has designed the



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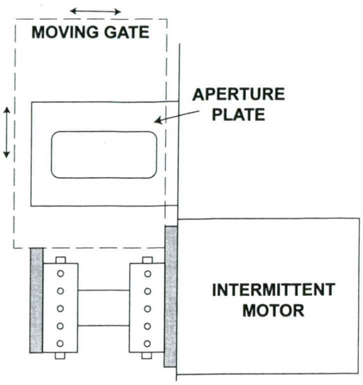


Right: MaxiVision's patent-pending Active Crystal Registration uses a moveable gate controlled by piezo crystal motors to constantly compensate for film misregistration frame by frame. Bottom right: Registration marks consisting of a circle, square and triangle that are imprinted between film frames are read by a CCD line-array to determine the amount of gate adjustment needed before each frame is projected. Any other information such as film title, lab origin and projection frame rate can be placed in the bar code next to the registration marks and read by the line-array.

necessary MaxiVision, standard spherical and anamorphic projection optics to fit on the SFP's three-lens turret.

As film is run from front platters through a projector, the film's polyester base becomes statically charged, attracting dust particles that lead to scratching. The SFP is fitted with a de-ionizer, brushes and a vacuum cleaner system to constantly clean the film while it is running.

The SFP will also dramatically reduce "thermal shock de-focusing" — the tendency for film to expand (and cup) toward the light, thus altering the focal distance to the lens and causing the image to go faintly out of focus. A curved gate design in the SFP bends the film slightly in the direction of the lamphouse. In addition, MaxiVision will experiment with firing a blast of air at each frame to prevent the film from expanding toward the lamphouse any further, a theory first pioneered by William Borberg.

The gate is also the focal point in the SFP's pièce de résistance: Active Crystal Registration. During exposure, as film moves intermittently through a camera's gate, it is held precisely in place by registration pins, creating successive uniform frames in proper alignment to each other. However, standard projectors lack registration pins, and instead use friction to passively stop each frame in place with an intermittent sprocket and a spring-loaded gate that clamps down on the film. This can result in imprecise frame positioning, and inevitably leads to "jitter" (up-and-down film movement) and "weave" (side-to-side movement), resulting in a softening and blurring of image detail.

Even before this kind of projection misregistration figures in, the frames on theatrical release prints are already misaligned in relation to each other. Release prints are made on non-registered contact printers, so during duplication, the raw stock that piggybacks an internegative may float — making the resulting frame interrelationship untrue.

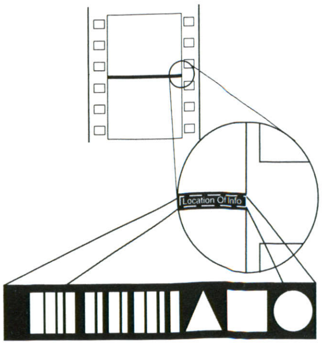
To compensate for both projection and printing frame misalignment, Trust Automation, whose specialty is digital robotics and motion-control technology, has designed a moveable gate for the SFP that will actively re-register the film frame by frame, a system that has been dubbed Active Crystal Registration (patent-pending). In ACR, the "gate motivator" — operated by piezo crystal motors — moves the gate on both X and Y axes in the distance necessary to accurately correct frame-to-frame misregistration. These piezo motors are crystals that expand and contract proportionally to the amount of voltage supplied to them, providing a high-speed capability and an accuracy within nanometers.

Proper frame positioning is determined as the ACR reads registration marks that are imprinted on the film between frames during the creation of an interpositive from the camera negative on a *registered* printer. After that, all other intermediate prints and release prints can be duplicated on unregistered contact printers.

These registration marks consist of a circle, a square and a triangle of varying size. The square is used because it is a constant width from top to bottom. The circle, which is used to calculate the amount of frame misregistration, is measured by a centered CCD line-array reader and compared in width to the square. The triangle is an additional mark for width comparison. Any necessary alignment correction is made by the ACR's gate motivator. For example, if the circle does not center on the CCD array, a vertical gate adjustment will be made to offset the difference. For weave adjustment, the line array automatically references the circle horizontally, meaning the circle should fall in the same position along the array each time. Any left or right deviation is corrected. Overall, the gate adjustment has a range from frame to frame of 1/10,000 of an inch.

Since the registration marks will be in fixed relationships to each other, fluctuations in exposure and illumination during duplication will not affect the adjustment calculations. That is, if film exposure makes the square larger or smaller in intensity, the circle will increase or decrease proportionately to the square.

An LED array will expose the CCD through the film registration marks while the shutter is closed, most likely using infrared light. IR light will prevent any bleed-through of the LED array light from being visible to the audience. This array would flash 2.5 milliseconds prior to the opening of the shutter, providing enough time for the CCD line array to read the registration marks and the gate motivator to make any gate adjustments.



If the processor determines that a film does not have registration marks, the ACR system will default to a lower level of ACR correction using perforation placement. Although this is less accurate than reference marks, a higher degree of film stability will still be achieved over standard non-registered projectors.

Existing theater projectors may be retrofitted with the Switchable Format Projector head for about the same cost as a normal projector head. All MaxiVision projectors will be available on a lease-only basis at $280 per month, so MaxiVision can remotely monitor and maintain its high standards. Every projector will be linked to the MaxiVision home office through an Internet connection. Using this connection, MaxiVision can report to distributors and exhibition executives the number of showings of a particular title — essentially eliminating those unreported midnight screenings. MaxiVision will also be notified of any potential projector failure.

More importantly, the projector light level will be monitored through an internal light meter. If the light brightness falls below SMPTE standard, the exhibitor will have a certain amount of time to change the lamp. Failure to do so will remotely disable the projector from showing any one of MaxiVision's proprietary formats. Standard formats may still be shown. "Our deal is if you want to show a MaxiVision movie, it has to be exactly the way the filmmakers designed it to be," attests Goodhill. "That's our way of keeping faith with filmmakers. Though most exhibitors sincerely want to do their best, we can't let a few lazy operators degrade the MaxiVision experience for anyone."

The MaxiVision system offers the filmmaking and moviegoing communities an improved emulsion-based cinema experience simply by expanding upon good ideas and theories that have existed

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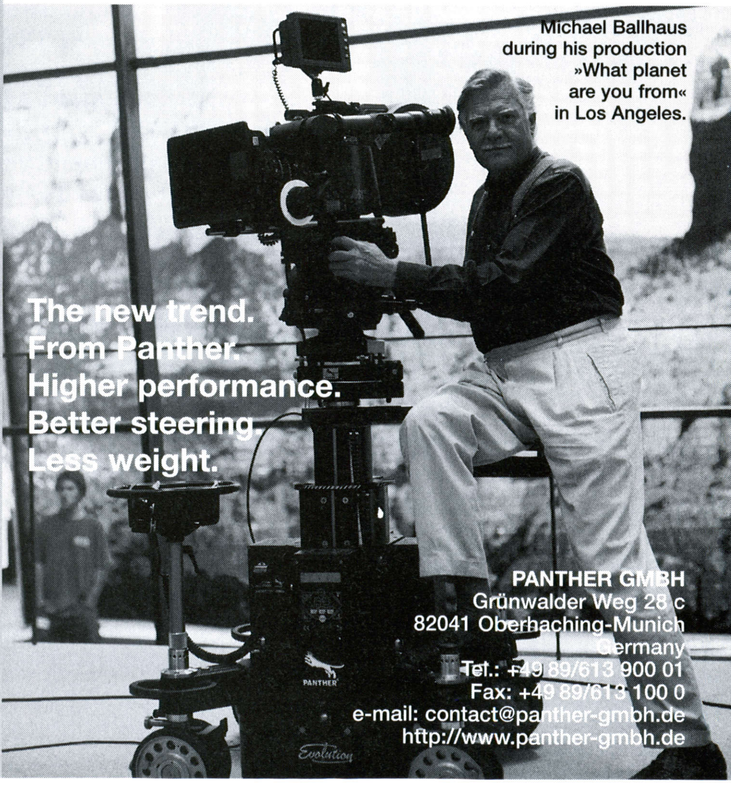

Michael Ballhaus during his production »What planet are you from« in Los Angeles.

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for years. "What's wrong with film isn't the film itself, which is fabulous," Goodhill concludes. "For us, what it really came down to was the recognition that everything in the whole chain that brings the picture to the big screen has become better, except for the projector."

Roger Ebert observed, "Having seen current film projection, video projection and MaxiVision, for me, there is no comparison because MaxiVision is dramatically superior."

Scorsese affirms, "I think MaxiVision is the most important and promising development in motion picture technology in almost half a century. I expect it to spark a tremendous revival in theatrical exhibition — which is, after all, the focus of every director's vision."

For further information about MaxiVision Cinema Technology, download a PDF information book from their Web site at www.MV48.com or fax (323) 650-8744.

MultiVision 235

One of film emulsion's many passionate supporters is Kevin Crumplin, the managing editor of Australian MovieLab. His family-owned facility has become a world-renowned resource for extraordinary Super 16-to-35mm conversions. However, Crumplin is frustrated with the lack of image quality afforded to filmmakers originating on 16mm and blowing up to 35mm for theatrical distribution. Through a bit of research, the entrepreneur has turned a technique from the past into an inexpensive solution for creative artists, using an Arri IIC 35mm camera that had been converted for use with the Techniscope widescreen process.

Introduced in 1963 by Technicolor Italia, Techniscope is a 2-perf camera format that achieves a natural 2.35:1 aspect ratio by utilizing only one half of the standard Academy aperture (4-perfs per frame). This not only allows the filmmaker to achieve a CinemaScope-like aspect ratio with spherical lenses, but also cuts the negative usage and developing costs in half. Using only two perfs per frame, the film runs through the camera at half the normal speed (45' per minute as opposed to 90' per minute), allowing the filmmaker to use less film overall and to have double the amount of time available per magazine compared to normal 35mm film (about 8 minutes, 53 seconds per 400' magazine, as opposed to 4 minutes, 26 seconds).

In a step similar to that used in the Super 35 process, an anamorphic 2:1 optical extraction print is then made from the original negative to achieve a 2.35:1 aspect ratio for theatrical release. This system was used for such films as Sergio Leone's *The Good, The Bad and the Ugly* (1966) and *Once Upon a Time in the West* (1969), and George Lucas's *THX 1138* (1970) and *American Graffiti* (1973), among many others.

Crumplin and engineer Bruce McNaughton of The Aranda Group in Victoria, Australia, have re-engineered two Arriflex BL-Is and two Arriflex IICs for 2-perf use, and are offering the packages under the banner of MultiVision 235, as an alternative to Super 16 for the low-budget filmmaker. "I'm not worried about competing with mainstream Hollywood," Crumplin admits. "They've got budgets, they've got the tools and choices that they need. I'm going after the people who don't have those budgets. I want to work with young filmmakers who have a vision. I'm giving them a chance to shoot 35mm images, 1.85:1 or 2.35:1 — spherically — for about the same cost as Super 16."

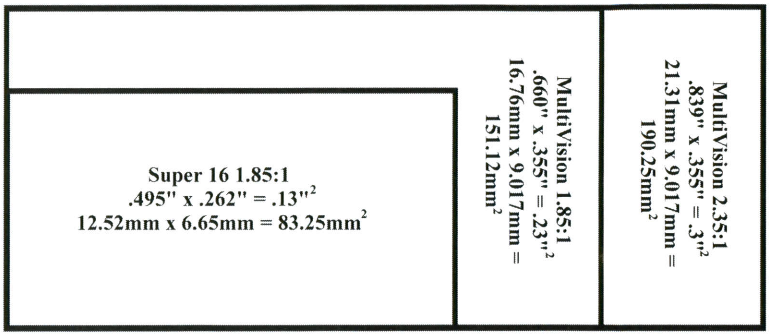

Image area comparison between Super 16 and MultiVision 235

During the height of Techniscope's popularity — from 1963 to about 1980 — over 350 feature films were photographed with the process. At that time, new, lower-cost, higher-quality anamorphic lenses became available, and Techniscope, with its reduced image area, could not compete with virtually grain-free 'Scope films. However, with recent advancements in motion picture emulsions (both negative and print), and the increasing popularity of Super 35, Techniscope has renewed viability as a professional production format.

Super 16 (composed in 1.85:1 for a 35mm blow-up) has a camera aperture size of .495" x .262" (12.52mm x 6.65mm) which has an overall image area of .13" sq. (83.25mm sq.). MultiVision 235 in a 1.85:1 format — which requires slight side-cropping of the image — has an image size of .660" x .355" (or .23" sq.) or 16.76mm x 9.017mm (151.12mm sq.). This is nearly double the image area of the equivalent aspect ratio in Super 16 (see

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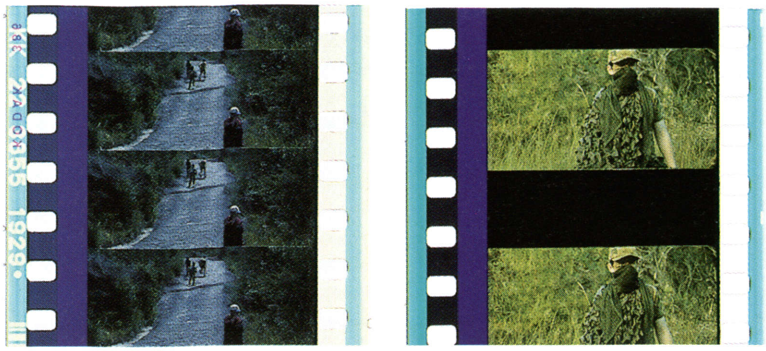


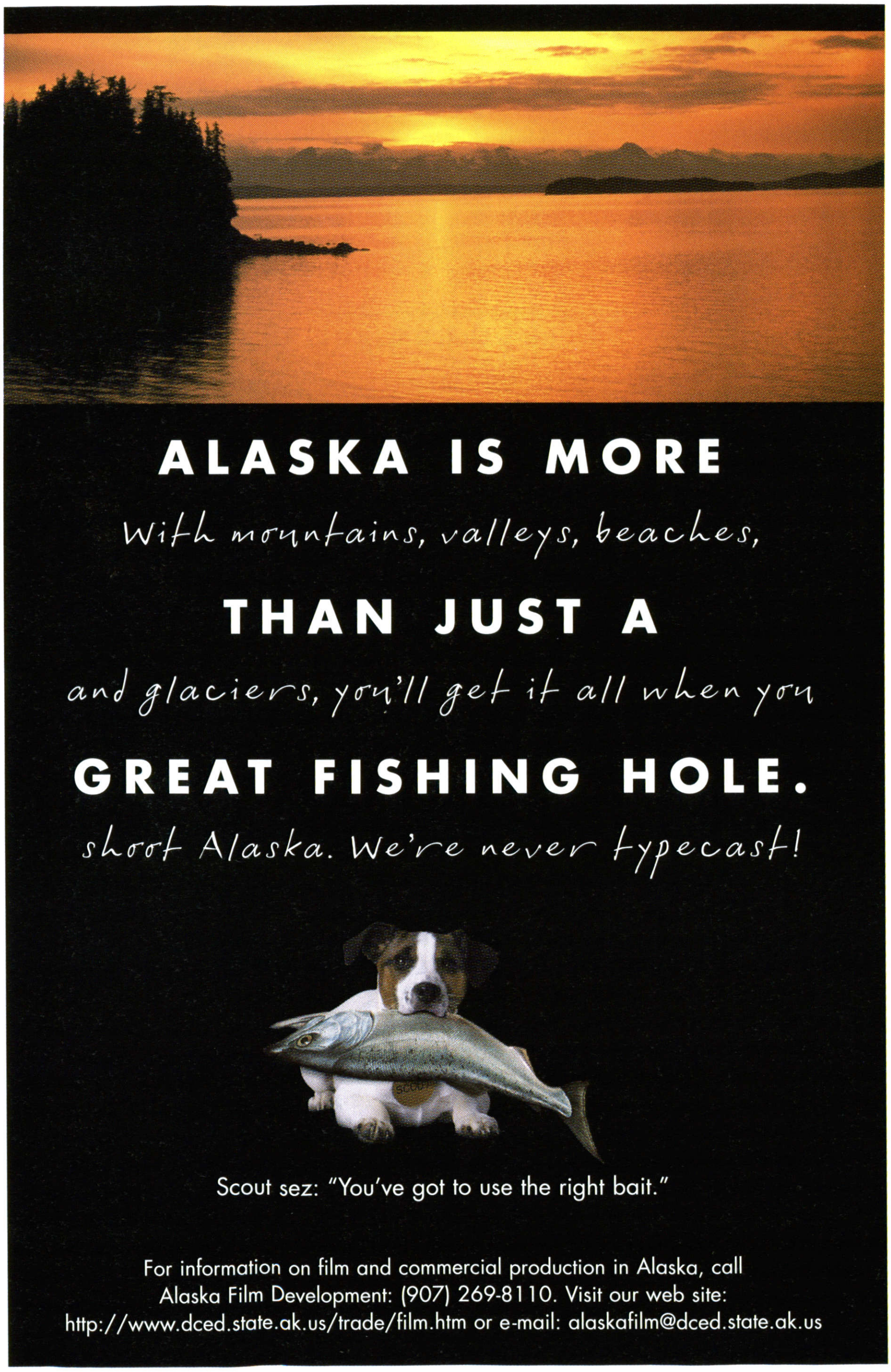
Filming in MultiVision 235's 2-perforation format (left) saves a considerable amount of film, extends the amount of time available per magazine, and cuts developing costs in half. From the 2-perf negative, an optical extraction print to standard 1.85 4-perf (right) can be made, or a 2:1 squeeze optical print can be made for an even wider 2.35:1 aspect ratio.

Super 16 to MultiVision comparison chart). In its full-frame 2.35:1 configuration, MultiVision has an image size of .839" x .355" (21.31mm x 9.017mm), which has an overall area of .30" sq. (190.25mm).

"To date, 13 short films has been made in MultiVision 235," Crumplin reports. "Some were shot for 2.35:1 with a 2:1 squeeze optical, and the others for 1.85:1. These productions were mostly made by filmmakers who elected not to shoot in Super16 for 35mm blowup, and those who simply wanted to shoot large, widescreen pictures, which would normally have been out of their monetary reach."

The Aranda Group's Bruce McNaughton opines, "MultiVision 235 has everything going for it. There are no disadvantages for the low-budget filmmaker. It has the price structure of Super 16 with double the frame area. For mainstream features, processing and laboratory savings can be applied to other areas of the production, adding to production value and screen quality. [Given MultiVision's] natural 2.35:1 aspect ratio, its advantage over the anamorphic process is that it uses spherical lenses, so the world's fastest and sharpest lenses can be employed without restriction. Depth of field is doubled using spherical lenses [versus anamorphics], and [lateral] 'smearing' and other optical distortion are avoided. In addition, spherical lenses are cheaper to rent and require about half the light levels that anamorphic lenses do."

MovieLab and The Aranda Group are finalizing plans to build



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their own camera system in the MultiVision 235 format. "We're designing it now," offers Crumplin. "We're building a camera that is what the cameraman wants. It won't have the bells and whistles of an Arriflex 535 or a Panaflex, because we can't build something like that and make it affordable to smaller-budget productions. We're going to build a camera that is affordable and versatile for younger filmmakers who want to get the most for their money."

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Univisium

In another part of the world, veteran cinematographer Vittorio Storaro ASC, AIC offers a passionate proposal: "I think that anyone who cares about the word 'composition' can no longer stand the fact that we have two entirely different compositions: one for television and one for theatrical images. Now, with a new composition for high-definition images, it makes the whole jumbled mess a pure nightmare.

"Every movie — no matter how big or small, successful or not — will have a very short life on the big screen, and a much longer life on an electronic one," he continues. "Today, answer prints are made for *both* of these two different media. The cinematographer's work ends up being released as an interpositive for theatrical distribution [in one aspect ratio], and a digital master for video distribution [in an entirely different aspect ratio]. Having these two different media, with two different aspect ratios, means that each member of [the creative team] — directors, production designers, cinematographers, camera operators, and so on — share the nightmare of compromising the composition to suit both ratios simultaneously. Looking through a viewfinder, a

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camera, or a monitor, we are always faced with at least two compositions of the same image.

"Since the cinema is a language of images, changing the original composition of the picture is an alteration to the linguistic expression, the style, and the film itself. It is like altering the size of an artist's painting to suit the wall where the painting will hang. A film that has been transferred to video in both letterbox and in pan-and-scan formats is, without a doubt, actually two *different* movies."

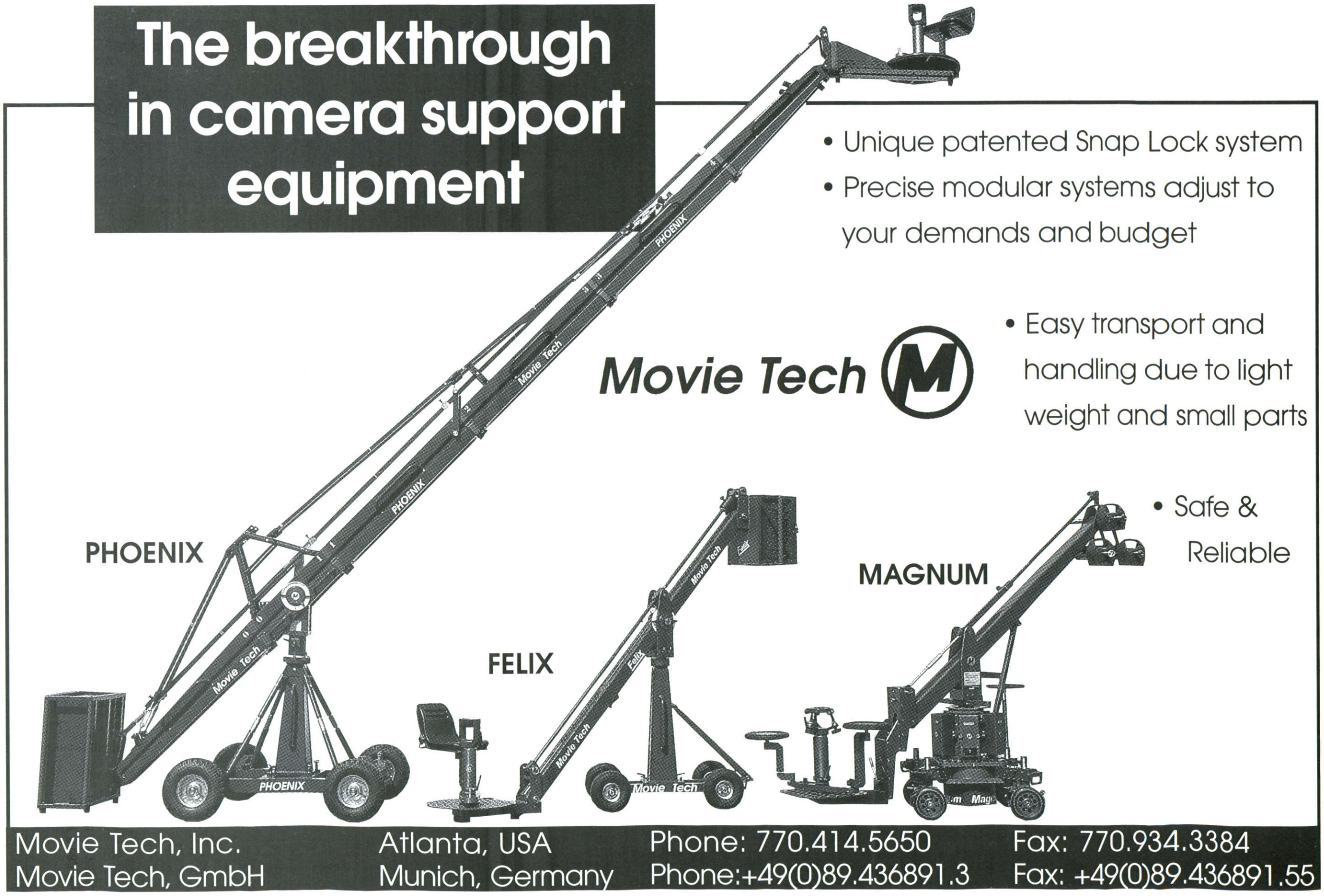
Storaro's proposal on this matter, entitled "Univisium" (Latin for "unity of images"), states, "Some day in the future, any small-screen film projector, in any cineplex, will be replaced by an electronic high-definition video projector. Consequently, any movie made for these small screening rooms will be directly recorded in high definition instead of 35mm negative. This is a process that we can slow down or speed up, but it cannot be stopped."

Storaro continues on to express his belief that audiences around the world will still want the true theatrical experience in all of its grandeur — that large-screen epics will still be a part of the audience's visual diet. "This part of the world of cinema," opines Storaro, "will need to be filmed in 65mm."

To meld these two formats into one, Storaro suggests a composition compromise of 2:1, an aspect ratio that will consider all formats past, present and future. This formula was derived from averaging the aspect ratios of 65mm film (2.2:1) and high-definition video (1.78:1). By unifying composition into one common aspect ratio, Storaro asserts that all of the confusion and compromise can be eliminated.

Storaro further points out that currently, movies shot for theatrical release on 35mm film —especially in the 1.85:1 format — are wasting a considerable amount of negative area. He maintains that this waste can be converted to great benefit by shooting only three perforations per frame as opposed to four. "In my opinion, all of the film is valuable. [As long as we continue to shoot 35mm film,] there is no reason why we should not use the entire area between the perforations for the image."

Univisium 3-perf eliminates the analog soundtrack area — opting purely for one of the digital sound formats that either fit along the outside edge of the perforations or between them — in order to achieve a natural 2.35:1 aspect ratio. This full negative area, also referred to as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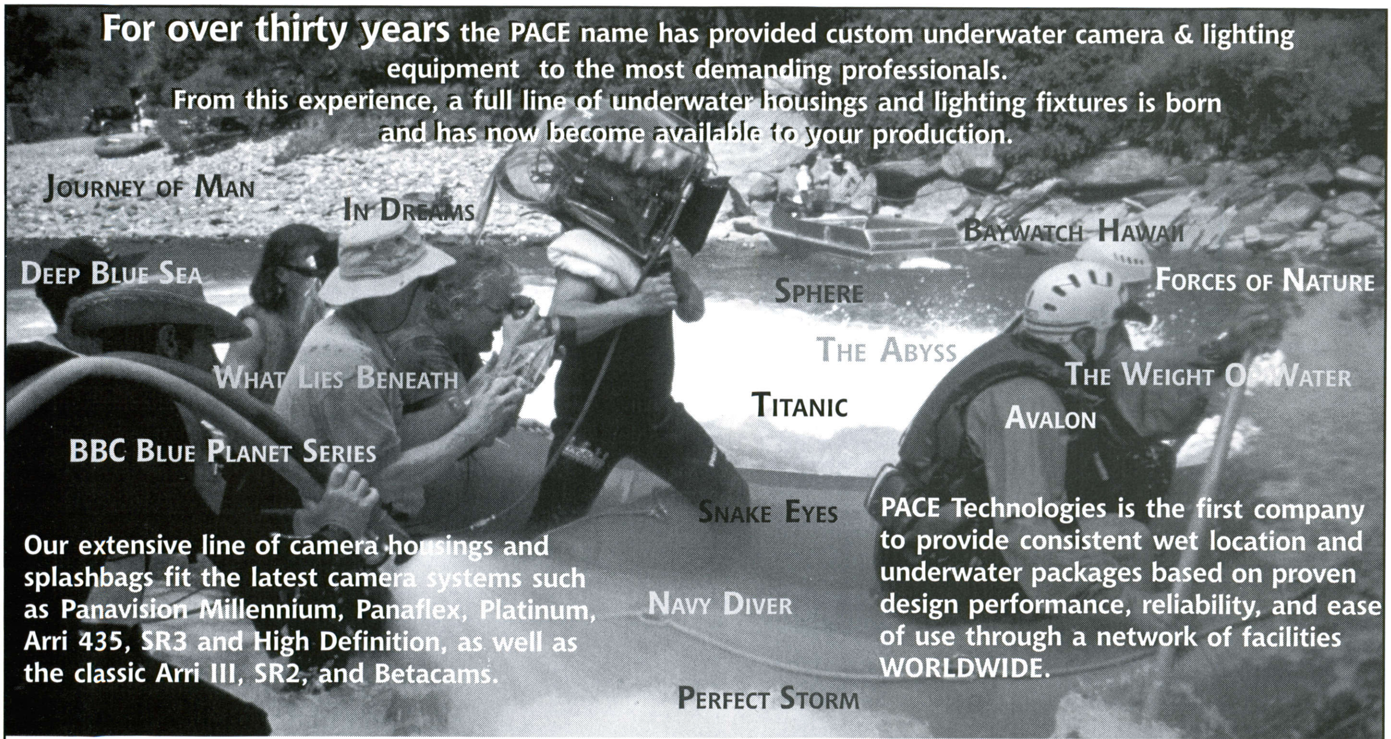
Super 35, measures .980" x .735" (24.89mm x 18.67mm).

"In addition," offers Storaro, "we can eliminate one quarter of the image height that is not used in either 1.85:1 or 2.35:1, and utilize only three perforations per frame. We then gain an extraordinary amount of image quality because we have a much bigger negative, compared to standard 1.85:1 four-perforation. You get an even better image quality than anamorphic because you are using spherical lenses, [which do not have the aberrations that anamorphic lenses have]. At the same time, we have much more creativity because on the same magazine we get 25 percent more time. [Using only three perforations per frame as opposed to four runs 35mm film at 67.5' per minute, or 5 minutes, 56 seconds per 400' magazine, as opposed to 90' per minute, or 4 minutes, 26 seconds per mag.] That means a lot when you are trying to get a performance from an actor, or using Steadicam, or hurrying to catch the sun. With three perforations per frame, you have that much more time to get what you want."

Currently, films photographed on a 3-perf system must undergo an optical conversion to a 4-perf release print for theatrical exhibition. Storaro suggests making 3-perf release prints and retrofitting existing projectors to properly present the image. This would then reduce not only negative and development costs by one quarter, but release print, shipping and storage costs as well.

Putting his proposal to the test, Storaro recently utilized Univisium-modified Arriflex cameras to shoot director Alfonso Arau's upcoming film *Picking Up the Pieces*, a dark comedy starring Woody Allen. The cinematographer was aided in his quest by Italy-based rental house Technovision, which modified an Arri 535 package to 3-perf with a Super 35 camera aperture. This "perf-to-perf" configuration creates an almost purely natural 2:1 aspect ratio with spherical lenses, and a 12 percent increase in overall negative area (as compared to 4-perf 1.85:1). Anamorphic 35mm release prints of this film will be achieved via an optical squeeze, and will still allow room for analog as well as digital soundtracks to be placed on the film.

Vittorio Storaro's complete proposal for the Univisium format can be seen on the Internet at www.univisium.com. ■



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Robot Love and Ram Trucks

Amorous Androids

by Christopher Probst

For Icelandic pop-vocalist Björk's latest single, "All Is Full of Love," British music video director Chris Cunningham envisioned an antiseptically surreal medical/industrial assembly line that gives "birth" to an eerily realistic android version of the singer as the pulsing, almost languid techno-based track develops.

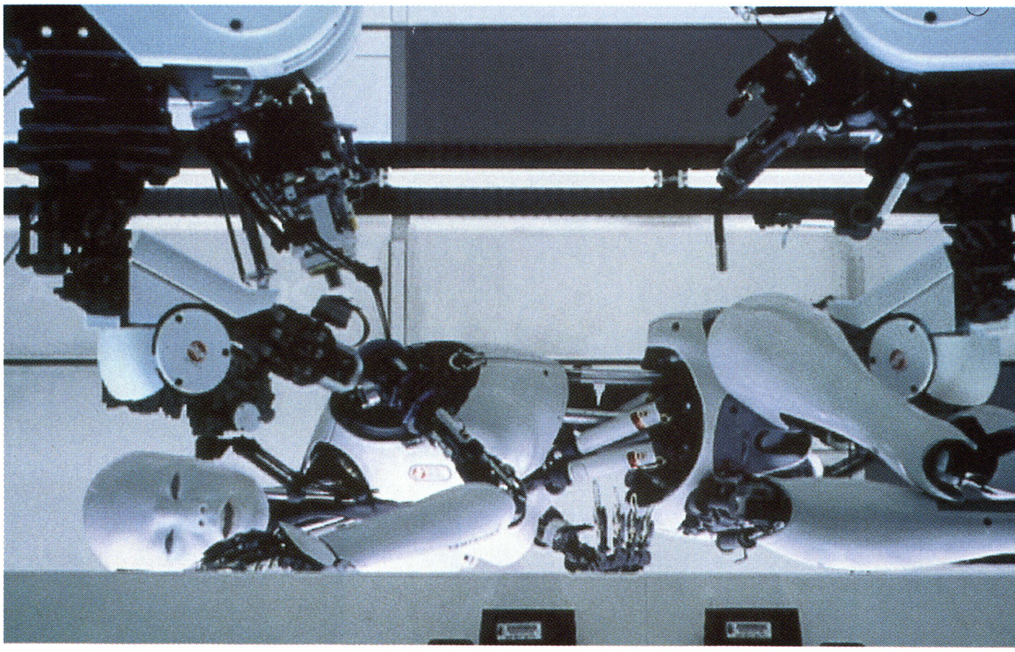
"As a teenager I had quite an obsession with industrial robotics and electronic music," says Cunningham. "I always thought it would be nice to mix that aesthetic of robotic fetishism with something completely conflicting. 'All Is Full of Love' is so much about romance and sensuality that I thought it might be interesting to push those ideas together with a sort of cold technology, and see if we could make it work."

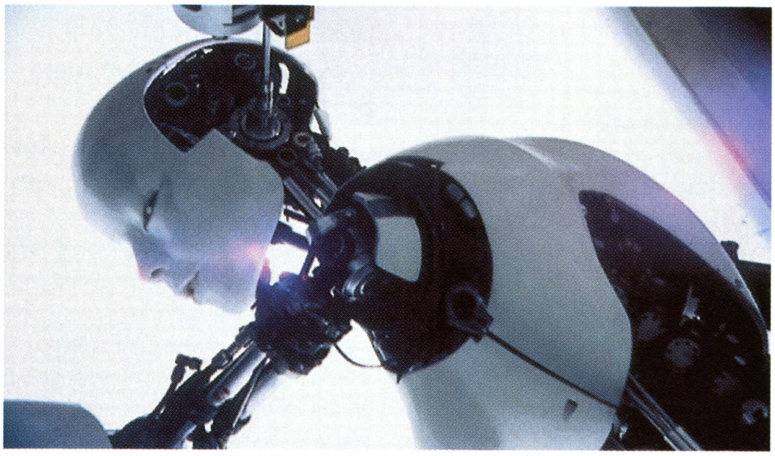
Set within a pristine white, medical-lab environment, the video begins from black with a shot tracking along serpentine cables on the floor as fluorescent lighting in the room flickers on. As the camera tilts up, two fluid mechanical assembly arms swing in from either side of the frame and set to work on a solitary figure laying on a slab in the center of the room. The figure is soon revealed to be a partially assembled robotic version of Björk. Lights beneath her "bed" flicker to life as the vocals in the track begin. With large sections of her white synthetic body still missing, the Björk android begins to sing the words of the song as assembly robots attach panels to her limbs and solder connections in the back of her head.

During the song's second verse, a second identical Björk figure stands before the slab observing the android construction. The video finishes with a somewhat disturbing and yet strangely beautiful image of the two beings embracing and kissing each other in movements that appear surprisingly human. As the track begins to fade, the lighting once again flickers to black and the camera pulls away, tilting back down the slithering forms of the cables on the floor.

Director of photography John Lynch was chosen to photograph Cunningham's carefully planned techno fantasy. The two had collaborated on a prior commercial project.

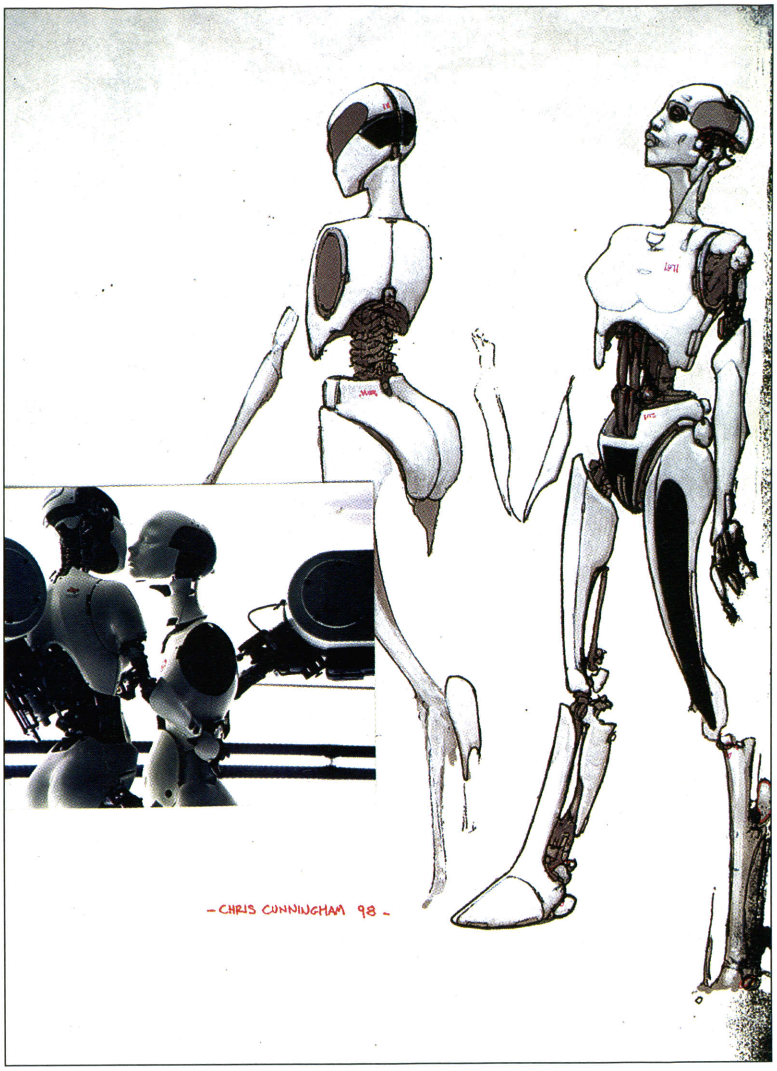
Prior to his career as a director, Cunningham worked in prosthetics,





A pair of androids, both bearing an eerie resemblance to Icelandic pop singer Björk, seek sensual solace from each other in the video "All Is Full of Love," directed by Chris Cunningham and shot by John Lynch.

Photos courtesy of RSA Films Ltd. and Chris Cunningham.



Cunningham's hand-drawn rendering of the robots was realized to full effect on the set. Inset photo: The robots as photographed, conspicuously missing several appendages which would be added via CG in post.

animatronics and art department and production illustration, experiences that enabled him to design each element of the visuals to his exact liking. "I did technical drawings for the designs of the robots and the Björk androids," he explains, "and then had a model-maker friend of mine build everything as static props. 'All Is Full of Love' was a relatively low-budget video, and it's probably the best instance where having an effects background — and knowing how to be resourceful with low-budget effects — has come in handy for me. I'm an obsessive storyboarder, but the Björk video is the most pre-planned I've ever been. I did a timeline that was like a metronome with the track, and each cut point was mapped out on it.

"There are actually no functioning robots in the video at all. Anything that moves is a computer graphic. The robotic arms that come in from the sides were two props on steel rods that we had two men push into frame."

—director Chris Cunningham

"There are actually no functioning robots in the video at all," Cunningham continues. "Anything that moves is a computer graphic. The robotic arms that come in from the sides were two props on steel rods that we had two men push into frame. The only actual moving part on the robots was a tilting mechanism that was crudely cable-controlled. All of the additional moving parts were tiny little CG elements that we added in post at Glassworks in London. I don't think computer graphics are anywhere near photo-realistic yet. The only way you can fool someone is to increase the percentage of 'reality' in each shot and minimize the amount of CG."

A similar method was employed to convincingly create the performance and movements of the Björk androids. "All of the actual movement of the figures was based on Björk's real performance," states Cunningham, "Once again, though, that was done with CGI, which basically involved only moving the arms and the head occasionally, as well as inserting her lip-synched performance. If you see a shot where the head is not moving, then what you're seeing is a prop Björk head that was taken from a life-cast; her eyes, nostrils and mouth were the only elements we added. For shots in which her head was moving, we used a 3-D computer model of the prop head that was tracked frame-by-frame to match Björk's performance. The last shots of the two robots kissing are probably the best examples of how we were creating their movements. We took the arms off the prop figures and the head off of one of them and shot them for about 20 seconds. We'd then put Björk in to do a pass for an arm. We had her [dressed] in blue with some white panels on her arms, so the effects people could have a performance guide.

"Every single shot in the video has about four layers," he expands. "The first element is the shot of the set and the robot prop doing nothing, which we'd film for about 20 seconds. We'd then remove the prop Björk robot and put [the real] Björk in with her face painted white and wearing a blue suit. Using a mix of the [master shot and the live feed of Björk in frame] on the video monitor, we'd then try to match them up as much as possible. It was a pretty crude and fairly terrifying method of shooting the video. For the Avid editing, I basically had a series of stills of a robot on a set and some crude shots of Björk wearing a blue suit with her face painted white. There was a definite feeling of insecurity all the way until the first couple of shots were finished in post, when I could finally tell whether it was working or not."

Filmed with slow, methodical locked-off shots, the clip's imagery has an almost black-and-white starkness, but Cunningham sought to skew the look more toward a colder cyan-blue white to help create a more "medical" feel. The only true sense of color in the video comes from the use of elegantly controlled lens flares to add a specifically adjusted glow of electric purple-blue to portions of the frame.

"There were two photographic elements I absolutely wanted to get across," Cunningham states. "First, I wanted to have haze off all the lights, and we tried to keep actual prop lights in the shot to get haze from them. Second, the color of the flares had to be purple-blue. When I've shot recently with anamorphic lenses, I haven't been as interested in the ratio as much as the quality of the lenses, which in these cases were quite old. Lenses seem to be getting more and more crystal-clear with each year. It's actually getting pretty to hard to re-create those subtle textures, because the lenses are almost too good."

Cinematographer Lynch submits, "Chris has a lot of technical ability, and he knows exactly what he wants from a cinematographer. He likes pushing every tool — the lenses, the film stock, the lights — to try to get results that people haven't seen before. The use of flares, for example, was absolutely premeditated. He wanted to use the lenses' imperfections to give the film something unique. We tested quite a lot of different lenses — from Panavision Primo and older Cooke Crystal Express anamorphics, to a number of different spherical lenses — to find the ones that had the nicest-colored flares. We also tested different light sources that we could use to create the flares: direct lights like Dedos or fluorescents and various bounced lights. To produce the precise purple-blue flares Chris wanted, we eventually settled on some older Panavision [Normal Speed] PS lenses used in combination with Kodak Vision 250D 5246."

To physically execute this visual mandate of forced imperfection, Lynch began dealing with the lighting of the set itself. "Almost all of the light in the set was from underneath, and it sort of bounced around the white walls of the sets, although we did have a few 'practical' bulbs built into the wall behind the figures. The fluorescent lights presented their own problems, because we couldn't dim them; we had about eight different people on the switches turning them on and off. Chris pays a great deal of attention to the photographic choreography, mapping out the visuals almost like music. In that regard, we really had to work out the sequence and duration of the fluorescents' flicker throughout the course of the song. We had to establish whether they would flicker all of the time, how long they'd stay on, where they'd flicker, when they went off, and so on."

Next, Lynch added additional "imperfect" lighting to the given setup. "We used various lights aimed directly into the lens for each effect," he states. "On every shot, we went through a sequence of deciding where we'd put the flare and whether or not we needed one. We could have possibly added the flares in post, but it was much more organic and exciting to do them in-camera. To work out the size, shape, color and position of the flares, we would use a Maglite to find the proper position for the light, and then replace the Maglite with a Dedo or other instrument. Then, for the more milky-flared look Chris wanted, we'd use either a soft bounced light or a fluorescent light very near the lens. Sometimes, however, we'd use a direct light at a very acute angle, just skimming across the lens. We also played with depth of field to help isolate what we wanted to see. It was quite shallow most of the time."

Cunningham concludes, "Looking back at the project now, I wish there was even less depth of field. I didn't want to use slant focus or other kinds of lens tricks to make things look kind of romantic, but I wish the background was more out of focus. I can remember telling the art department to bring the

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back walls closer to save money. But then no matter how far backwards I went in the studio [using longer lenses], I couldn't get the background out of focus. The robots were too close to the back wall, and we couldn't get that drop in focus. That was my biggest regret of the whole job, because if the back wall had been further from the subject, I think the video would have looked more lush. It's interesting how such a major element in the photographic style of the video can be made or broken by one small decision about the set."

Rams Full of Sand

by Debra Kaufman

In a new commercial for Dodge Ram trucks, sand falls through a giant hourglass overhead, while trucks position themselves under the flow, one after another, to fill up their beds. The effect is a clever combination of both computer-generated imagery and live action, supervised by director Rob Blalack at Praxis Films.

Sand falling through an hourglass is also a good metaphor for the tight deadlines of commercial productions, especially those involving CGI. But when BBDO Detroit came to Blalack with storyboards for "Hourglass," he knew exactly how to begin: with previsualization. Blalack simply fired up an in-house Windows NT computer and worked with a freelance artist to create his own previsualization in 3D Studio Max.

The visual effects realm is old hat for Blalack, who earned an Academy Award in 1977 for supervising the extensive optical effects in *Star Wars*. Four years ago, after he read that pioneering CG company Robert Abel & Associates had used computers to previsualize commercials, Blalack turned the idea to his advantage when he was faced with a tricky shot on another Dodge commercial, "Egress."

From then on, Blalack began using previsualization whenever he felt it was needed. He employed the technique while preparing to shoot a four-minute ride film starring Martin Short for Busch Gardens, and also while designing last year's Dodge "Clock" spots. On the ride film project, previz helped Blalack work out the timing of CG creatures that would be added to the frame. For the "Clock" spots, he says, previz proved to be an "extremely important" tool for determining which shots would have to be done in CG to fit the budget. He notes, "Storyboarding is a good first impression of what you're going to do, but as soon as it moves into CG — particularly on a commercial schedule, where you have eight weeks to do the spot — you have almost no room to try options and change timings. When you're using CG, trying out different options means time and money."

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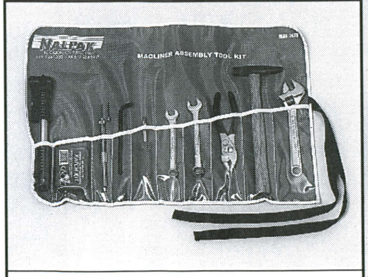

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As Blalack began to use previsualizations more frequently, he discovered another great use for them. "We began showing them to clients," he reveals. "Their reaction showed us that previz wasn't just a technical problem-solving tool, but a powerful creative communication tool that allows the client to see what they're going to get."

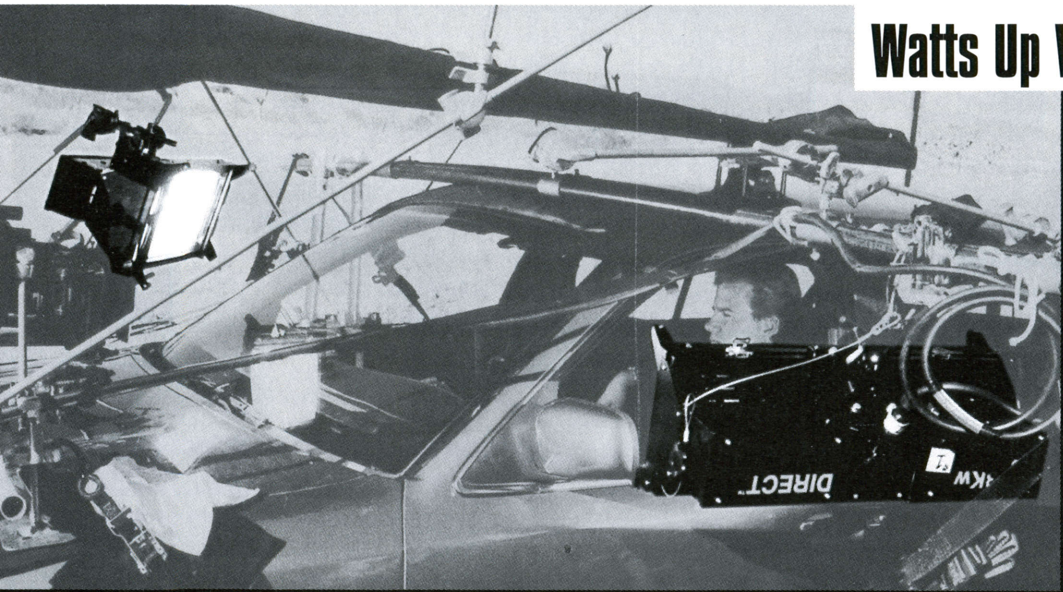
The initial previsualization for "Hourglass" convinced BBDO creatives and Blalack that the trucks needed to move past the hourglass differently, in a pattern that suggested an intersection rather than a factory line. By then, Blalack had already brought Station X, a Santa Monica digital effects facility, onto the job. To redo the previz, Station X effects supervisor Greg Teegarden sat down with Blalack at Praxis, where the duo reworked the previsualization, retaining two of the original shots.

As a result of previz, they determined that the shots of the sand being dumped into the truck beds would have to be done practically rather than digitally. "Before we rolled any film, we had edited the spot in previz," says Blalack. "With the previz locked, we knew everything about the shots, from their duration to the camera angles. We could therefore go off to shoot the live-action, while Station X could begin creating the CG elements."

Director of photography Ward Russell (*The X-Files* feature, *Days of Thunder*, *The Last Boy Scout*) reports that the nine-day shoot for "Hourglass" and another Dodge spot went smoothly. "Previz always give you a good starting place," Russell attests. "When you get on the stage, though, you often find that the CGI ideas don't always work perfectly in the real world. We start with the initial concept and then explore the subject matter with different camera angles and lenses. [On this project,] we determined that 85mm [lenses] would be the ideal jumping-off point for the vehicles."

For shots requiring two tons of sand to be poured into the bed of a pickup truck in three seconds, ground nutshells were chosen to mimic the sand, since they were lighter and less likely to raise much dust. A sealer was added over the truck's paint to prevent damage from the many takes. After the "sand" was poured, the crew would prepare for the next take by cleaning up the truck and sweeping the sand back into the hopper.

Meanwhile, at Station X, Teegarden and his team worked to make their CG trucks as photo-realistic as possible, since these images would be interspersed with images of the actual truck. The biggest challenge, says Teegarden, was lighting the CG trucks to make them look as if they were part of the set. He credits his CGI supervisor, Enrique Munoz, with doing a heroic lighting job,



Watts Up With SoftSun 3.3K?

What's the best new way to light interiors for the ever-popular car chase? Leave it to veteran action cinematographer David Eggby whose credits range from *Mad Max* to the forthcoming *Blue Streak*.

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Eggby lit effectively with just two 18 pound, 3.3K SoftSuns. One lit through the front windshield to fill out the interior while the 2nd positioned on at the side achieved good relative light balance. Due to their soft output, no diffusion was needed.

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Using SoftSun's dimmer panel, Eggby positioned himself in the towing vehicle and adjusted intensity as the shot progressed. "SoftSun let us reverse vehicle directions without a new setup. We drove in one direction, turned around, reprogramed the control unit to compensate for the varying sun position, then shot again with no down time."

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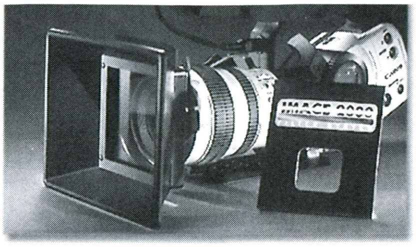

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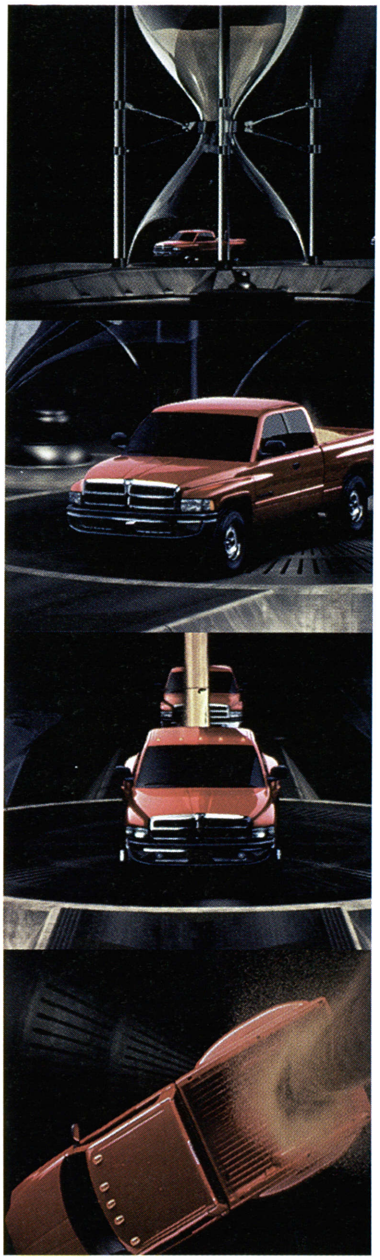


Dodge Ram trucks are filled with sand in the surrealistic "Hourglass" spot.

but Munoz didn't do it alone. In what may become a trend for cinematographers, Russell was hired as a consultant to help Station X match the lighting of the CG trucks with the lighting of the real vehicles shot one stage. "There's a computer program that actually simulates the effects of the big lightboxes we used on stage to light the vehicles," Russell reveals. "They can program it to do almost anything we can do on stage. Having having done the shots on stage, I could show the effects team where reality entered in, since the computerized lighting wasn't always accurate. For example, [the program] didn't know how chrome reflects. That's something you don't pay attention to unless you've spent many hours watching it like I have."

BBDO senior vp/associate creative director Dave Carnegie also sat in with Russell for the CG sessions. Russell and computer graphics artist Teegarden both agree that they learned from the experience, and that the end result benefitted from their shared expertise. "Between Dave and Ward, we got a lot of good information," Teegarden attests.

Russell returns the compliment, noting that his collaborators "were very talented, and picked up very quickly on how things really looked. We tried to take the shots past the computer graphics form to lend them reality."

Though matching a CG truck with images of a real one can be a big challenge, Station X was primed for the job. Teegarden explains, "We pretty much solved that challenge last year, when our visual effects supervisor, Mark Glaser, did the all-CG Dodge 'Clock' spot. They shot the trucks so we would have a model of what they looked like, and Mark had to match that look dead-on. We were able to use the same setups for the 'Hourglass' spot, because it was essentially showing the same truck with some cosmetic changes."

From director Blalack's point of view, "Hourglass" is a good example of his ethos: "Keep one foot in the real world, and one foot in the CG world, and only use the CG when necessary."

Blalack maintains that previsualization is the best path to a good result. "Previsualization and CG are just like skydiving," he observes. "In skydiving, the slogan is that you plan the jump and jump the plan. You don't change your mind in midstream, because you don't have the time to improvise when you're falling at 120 miles per hour. Given the demands of commercials involving CG, it's not expedient to solve creative questions in the middle of the production process." ■

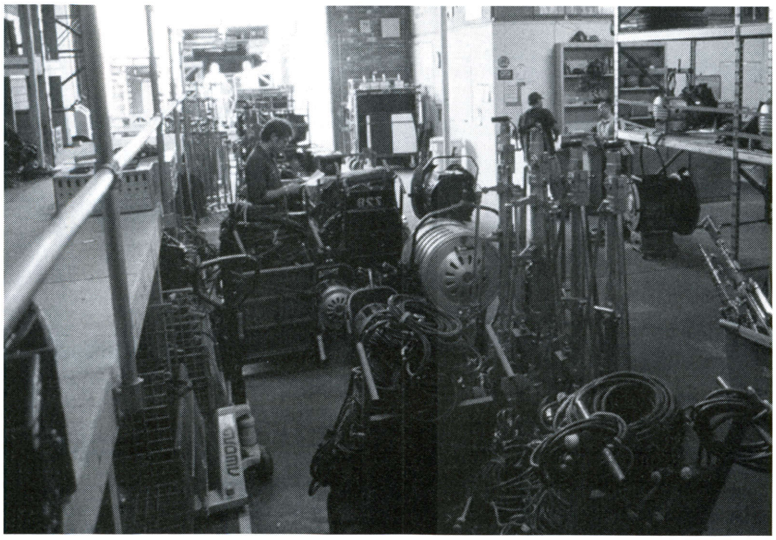
New Products & Services

compiled by Douglas Bankston

Boutique Mentality

Tomzilla Inc. rental services redefines the service paradigm for commercial and music video production.

by Christopher Probst



Burbank-based Tomzilla offers its clients personal service and support, as well as an array of specialty gear, from exotic car mounts to the latest lighting fixtures.

When partners Tom Browne and Gary Nepa of Burbank-based Tomzilla Production, Grip & Lighting started their business in the height of the recession-constricted '80s, they had rented a single 5-ton truck with wooden shelves and worked out of their garage. At that time the duo — who both were working as grip — found that certain needs of the film community they were serving were not being satisfied — that of individualized, personal service. With their backgrounds as grips — the problem-solving and "service" backbone of any film production — and Nepa's education in business, the two sought to fill this service gap in the community with their company.

Today, Tomzilla (a nickname given to Brown during his grip tenure) is a full-service house providing lighting and grip equipment, transportation vehicles and production supplies in support of commercial and music video productions throughout Southern California. "We think of ourselves as an organization providing service rather than just being a mere rental house," submits Nepa. "We try to place ourselves in the shoes of the producer, production manager, gaffer, key grip and director of photography, and we try to satisfy their respective needs from a standpoint of both equipment requirements to their budgetary constraints. Naturally, satisfying all involved is not always possible, but it is out intention to do the best we can in this regard."

With that in mind, over the past decade the team has systematically built up their arsenal of grip and lighting equipment, vehicles, production supplies, personnel, and rental facilities — while incorporating lessons learned on real-world productions. They specifically hand-picked equipment that felt, in their experience, was the strongest for its particular duty. "All of our grip equipment is American-brand because we think it's the best available," says Browne. "All of our equipment matches and fits together perfectly. We didn't cut corners cost-wise at the expense of providing quality gear in the field. We were the first house to provide electrical distribution that is all Mole-brand locking pin, for instance. Our tungsten lights are all Mole Richardson. We have Arriflex HMI lights with matching ballasts and our larger HMIs are LTM because they're field tested and perform admirably on a continuous basis. We could have purchased less-expensive HMIs, saving about $6,000 on every 18K, but that's not what the market wants. We also try to acquire some of the new lighting units you see at shows like LDI. We have available newer units like the Arriflex Ruby7 and the HMI or tungsten Aurasoft. We want to provide gaffers and cameramen units that allow them to stay abreast of the cutting edge."

Browne and Nepa have taken into account how equipment is packed and delivered to the commercial/music video niche they serve. "Because we focus on the commercial/video market specifically, and knowing the quick turnaround on the trucks, we have 102"-wide 10-ton bobtails," states Browne. "The basic grip package is always loaded to the front of the truck, knowing that the specifics of the lighting order will change from job to job. With this scheme, the grips can essentially work out of the front of the truck, while the lighting department can work out of the back end."

"Additionally," Browne elaborates, "we have built 28' and 32' trailers identical to the bobtails, but with the option of dropping the trailer of equipment and having the mobility of a tractor-mounted generator to move around the set."

Adds Nepa, "Often in the commer-

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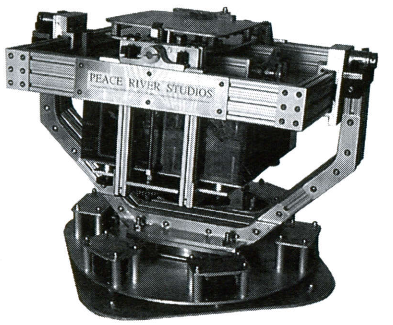

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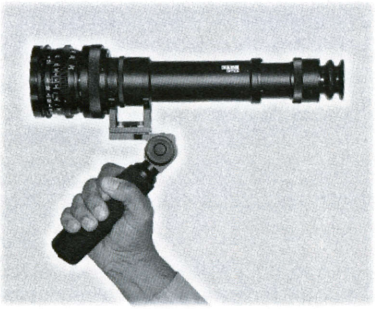

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cial/video realm, gaffers and key grips have to take on the added role of transportation coordinator, so they let us know which type of vehicles will work best for their particular project. We can then take care of it from our end."

A parallel niche to the Lighting and Grip division is Tomzilla Studio Transportation rentals, which now provides production cubes, stake beds, 5-tons as well as pre-loaded production supplies to the same customer base. Nepa explains, "Having this base of vehicles available allows Tomzilla to better satisfy the needs of the on-set lighting and grip departments."

Adds Browne, "In the past, a production would spend half a day to pick up the vehicle and the various supplies all over town. Now they can satisfy all of their equipment and transportation needs from a single location. Everything is loaded and ready to go."

When asked how the company evolved, Browne relates, "When we got into the business, the predominant mentality that was pounded into us was 'Don't try to reinvent the wheel.' There were ways things were done for the last 80 or so years that worked. However, at the same time, we had been working with a newer generation of crews and filmmakers who had not been part of the studio system and learned their craft on the streets, shooting more from the hip. They were more flexible, and they expected that flexibility in their surrounding production environment. So we purposefully run with what is 'tried and true' and yet accept the challenges of the flexible nature of today's productions.

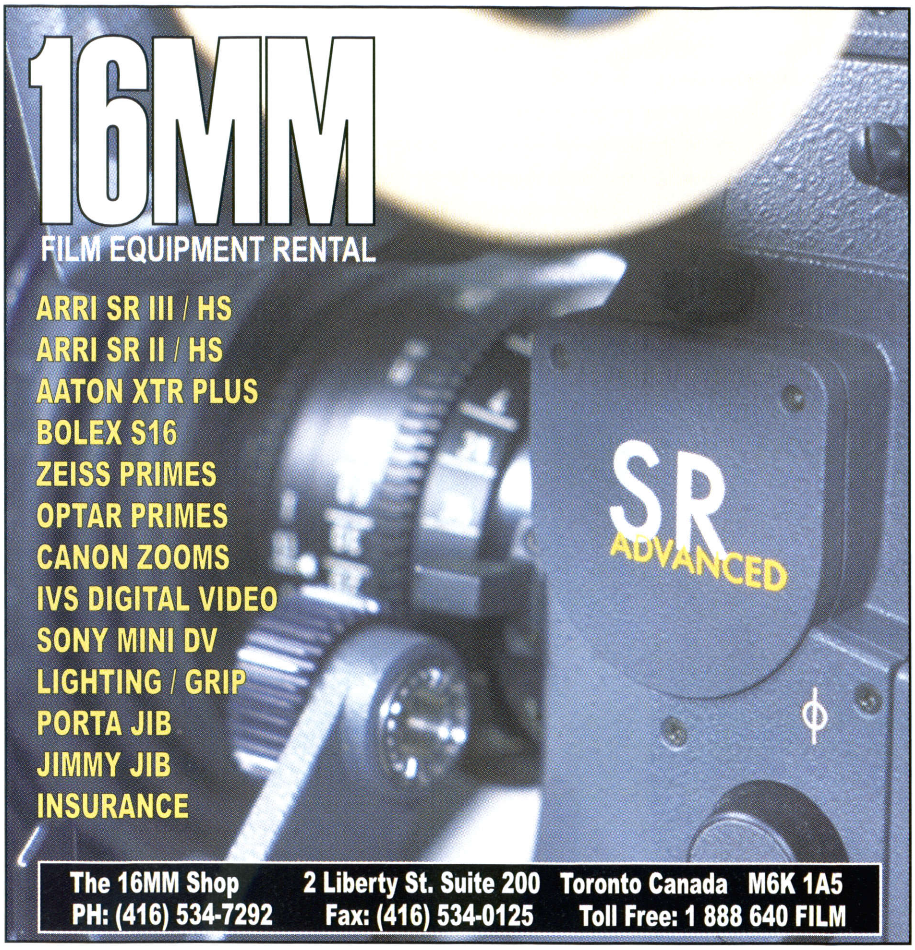
"In that regard, we've purposefully set out to encourage and nurture the younger guys coming up through music videos, and have helped them develop their reels. In fact, most of the gaffers, key grips and cinematographers we work with came from small freebies, and now work on music videos and commercials. We do a lot of music videos and commercials because that's where the majority of our clients started."

"It is difficult to be all things to all people," Nepa interjects, "and for this reason, we stay away from the long-run television and movie market. The two are completely different arenas of production and we don't believe one can successfully serve both — they operate on two different scales and two different mindsets. We all know that with music videos and commercials, things happen very quickly. Time is compressed, crew sizes are compressed and you need to hit the ground running out of the gate. You can almost always count on some unexpected variable to get in your way. So, from the perspective of the gaffer and key grip, we try to ensure that the equipment they order will arrive before call, be fully operational and will have the support of a qualified driver who will both assist the technicians, as well as help the production make their day."

"At Tomzilla," expands Browne, "the driver is responsible for overseeing the uploading and downloading of equipment on their vehicle. That way, we ensure production is not down for two hours because there are no lugs to tie power into the generator. All of our drivers are members of Locals 399 (transportation), 80 (grip) and 728 (electric), and since they know exactly what is on the truck, they are also able to better assist the technicians on set."

From the standpoint of production, "Producers, production managers and coordinators don't have the time to [haggle over the packages or rates], and need to make decisions right away," Browne relates. "Naturally, there are numerous times when the cost of equipment packages and the size of equipment budgets are miles apart. In those instances, we do all we can to bring the two extremes together in a timely manner in order to get production on track and up and running."

Expands Nepa, "We have also learned to focus on one thing and do it the best we can. That's why our focus is service to the commercial and video markets. We don't own generators, and there really isn't any need for us to. We have a excellent relationships with Young and SMS. We actually promote and prefer to utilize specialty equipment for other companies and let them do what they do best, which allows us to do



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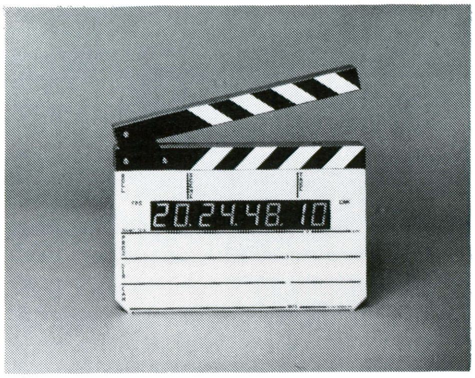

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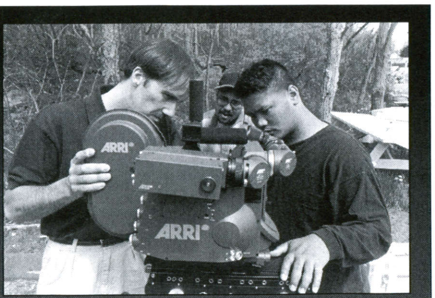

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"And what we do best is service," Browne emphasizes. "We're 100 percent service-oriented and we've tailored many aspects of our company to providing the best service possible to the commercial and music video community."

This service-orientated mandate is encouraged from top to bottom at Tomzilla. "This business is built on relationships," Browne concludes. "We try to develop long-standing relationships with everyone, including PAs, producers, production coordinators, grips, gaffers, and directors of photography. I try to be as open as possible with information, and our staff is the same way. They're able to catch things if, say, the cable order isn't complete. Since they've worked with all of the gear, they're able to notice things like that. People also want personable service, and there's a reason why PAs, key grips and gaffers come into the office and hang out for hours. This is their place. It's their home here as well."

Tomzilla Inc., 2529 North Ontario Street, Burbank, CA 91505, (800) 424-7477 or (818) 841-6400, fax (818) 841-9948.

Media 100 Goes Streaming

Media 100 is venturing into the world of Internet video and Internet video production with its new iFinish software and hardware for Windows NT. The product targets not only professional production companies who are looking at the Internet as a new distribution medium for their work, but even amateurs posting home movies online.

Says Mike Savello, director of marketing for Media 100, "We see really the opportunity to turn every personal computer that's connected to the Internet into an Internet television station. It's very expensive to create a TV station. It's not that expensive to create an Internet station, an Internet channel. On the viewership side, there are also more people spending time in front of their PCs than their TVs."

Like its nonlinear editing system counterpart Finish, iFinish is available in four versions — from the basic V20 up to the fully-loaded V80. In addition to the Media 100 editing software, iFinish integrates the Terran Media Cleaner software, which outputs all new media and Internet formats and codecs from Apple, Microsoft, Real Networks for online streaming media, as well as MPEG-1 and MPEG-2 for CD-ROM and DVD-ROM authoring. By using Apple's open architecture QuickTime Export Module, specific file formats can be created and written by the user through a deeper "drill-down" into the QuickTime architecture. This drill-down forms what Media 100 calls "Instant Media" that can communicate with other QuickTime-aware applications. The recently introduced Media Cleaner PowerSuite contains an embedded Ice card resulting in a hardware-accelerated streaming media solution, as opposed to a software-accelerated solution. The result is a QuickTime output four to seven times faster than the software solution. Through the QuickTime architecture, all codecs, compression algorithms and file formats are provided; as new ones are introduced, they are provided as upgrades.

The Media 100 iFinish features a tighter integration with Adobe After Effects, as well as support for both variants of MPEG-2, 420 and 422. A real-time performance MPEG-2 hardware add-in option is available, coupled with the standard-edition DVDit DVD authoring software from Sonic Solutions, which is tailored specifically for iFinish.

A graphical interface — an intelligent streaming media wizard — assists users step by step along the output process during format selection and data bit-rate optimization. The graphical interface goes a step further for real-time MPEG, allowing a preview monitor to show the actual picture quality, and a data-rate preview monitor to show how, for example, a transition might affect the data rate. To simplify the process, the interface also allows the user to choose a target data rate, and will adjust the image quality accordingly. The user may also choose a target storage space, such as a CD-ROM, and the system will automatically adjust the presets to make the file fit.

As a standard component of the iFinish V60 and V80 models, Media 100 includes a real-time color corrector that works with both levels and curves using native YUV. As a color-correction effect is applied, the change is immediately seen with this what-you-see-is-what-you-get tool.

For more information on Media 100 iFinish systems, contact Media 100 at (508) 460-1600 or browse their Web site at www.media100.com.

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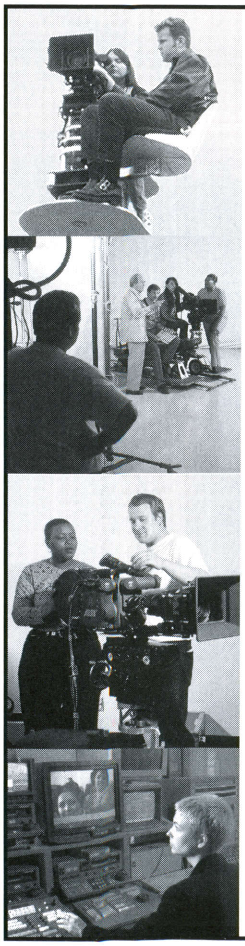

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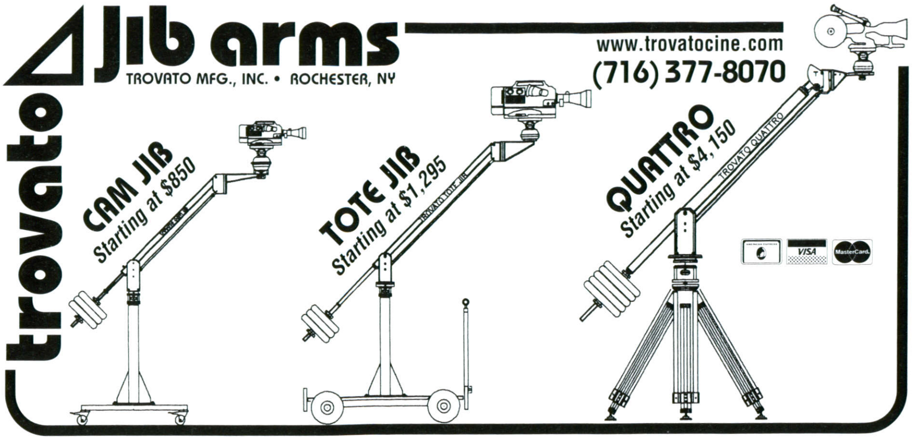

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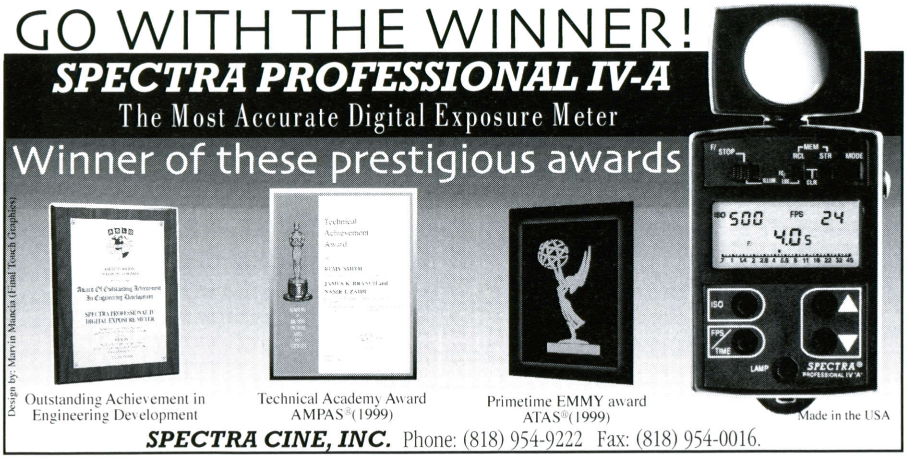

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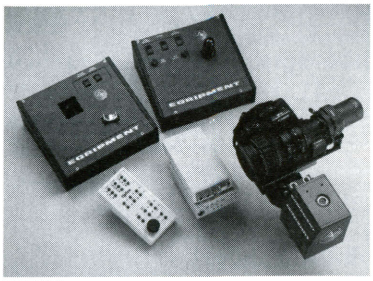

The camera package includes the OpTex RC48 which provides full on-air operation of the iris and the CCU's functions through a RS232 link. An optional addition to the package is the Digital Multi-Converter, which converts the frame format from 4:3 to 16:9.

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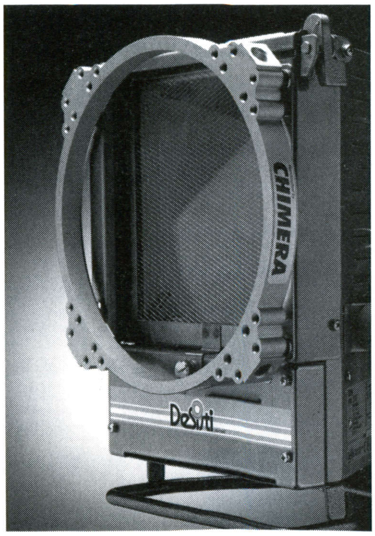
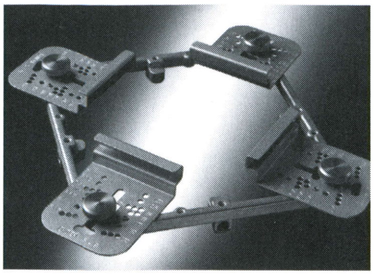


Chimera Speed Rings

Chimera Lighting has manufactured a new adjustable Speed Ring for small fixtures. The Speed Ring is adjustable to fit fixtures from five to nine inches and is offered in two types for mounting either Chimera Video Pro or



Daylite Jr. series lightbanks.

Chimera has also released new Speed Rings for the DeSisti Goya 400 light head for mounting of Video Pro or Daylite Jr. lightbanks.

Chimera Lighting, (888) 444-1812 or (303) 444-8000, fax (303) 444-8303, e-mail: sales @chimeralighting.com.

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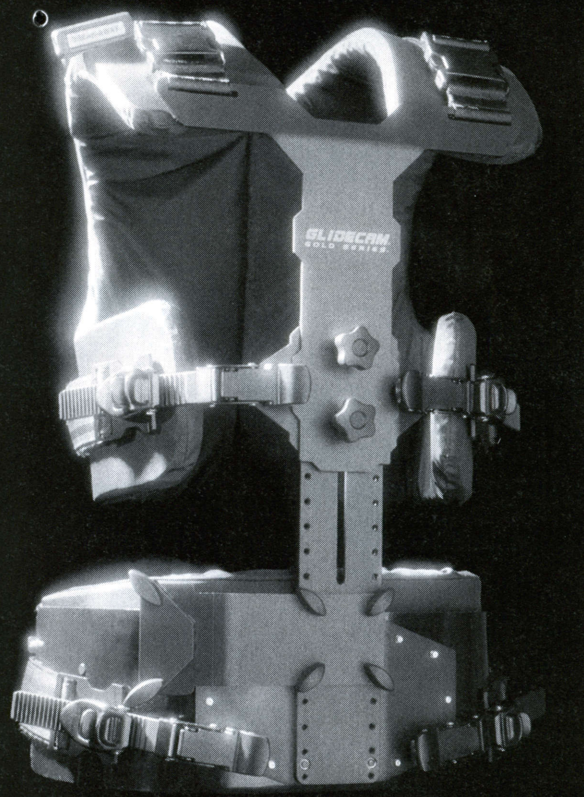

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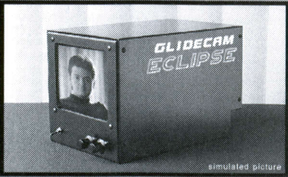

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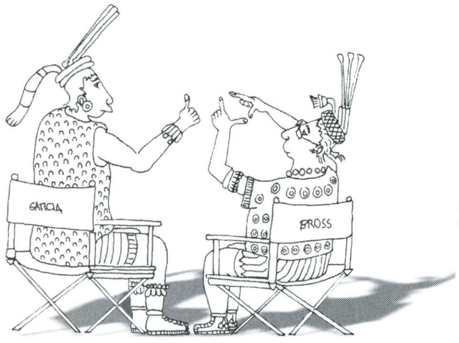

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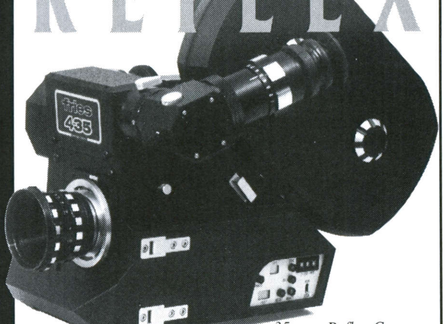

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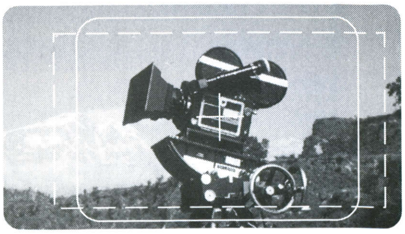

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Dimensions International trade show in Orlando, Florida this past November.

The winner of the show's Best Expendable/Widget Award was Apollo Design Technology's Colour Scenic Gobos. The gobos are made of high-resolution colored glass produced at 10,000 dpi. Patterns are available in all sizes for any lighting unit. The tight resolution also allows the gobos to be used to project logos and actual photographs.

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Submissions for "New Products & Services" may be sent to the attention of Editorial Assistant Doug Bankston at 1782 N. Orange Dr., Hollywood, California, 90028. Please include full contact information. Images may be sent as color slides, prints, or digital files (Mac Photoshop TIFF format, 300dpi, on Zip or Jaz drives). Information may also be e-mailed to doug_bankston@cinematographer.com. Materials will not be returned without a self-addressed, stamped envelope.

Points East

New Yorkers Filter Through *Judy Berlin*

by Eric Rudolph

Film festivals across the United States have honored *Judy Berlin*, writer/director Eric Mendelsohn's loopy first feature about a failed young filmmaker's misadventures with family members and friends in Long Island. The low-key picture served up enough unexpected pleasures to win the directing award at the 1999 Sundance Film Festival and the Golden Starfish (for Best Film) at this fall's Hamptons International Film Festival on Long Island's East End. Theatrical engagements begin in New York and Los Angeles in late February, with a national release to follow.

Lovingly and painstakingly shot in 35mm black-and-white by first-time feature cinematographer Jeffrey Seckendorf, *Judy Berlin* stars an assortment of esteemed New York actors , including Edie Falco, Bob Dishy, Barbara Barrie and Madeline Kahn.

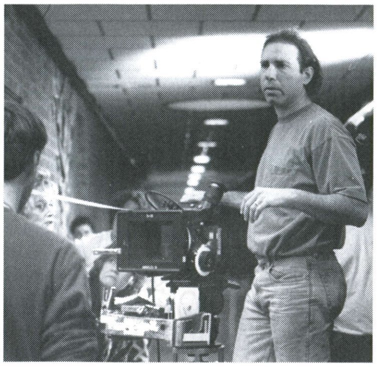
Judy Berlin follows one day in the lives of the Gold family of Bethpage, Long Island, during an afternoon solar eclipse. The key members of this dysfunctional clan are David (Aaron Harnick), a frustrated young filmmaker; his adulterous father, Arthur (Dishy); and his oddball mother, Alice (Kahn).

One day, after trudging dejectedly out of the house (director Mendelsohn's actual boyhood home), the nebbishy David begins wandering aimlessly through the suburbs in a state of near-catatonia. Along the way, he encounters a former high school classmate: the lively, optimistic, but foolish Judy Berlin (Falco), who happens to be the daughter of the woman with whom David's father is having his affair. Judy is spending her last day on Long Island before taking off for Hollywood to be an actress, an ambition inspired by her starring role in an unintentionally funny regional commercial for a local dinette outlet.

Left: Novella Nelson (left) and the late, great comedienne Madeline Kahn lend an amusing air of lunacy to *Judy Berlin*. Below: Director of photography Jeffrey Seckendorf on the set.

As Judy and David wander around and take in the eclipse, he pauses to vent his spleen about his own disastrous Hollywood venture — and make an awkward pass at his friend. Meanwhile, back at home, the senior Gold's marital drama unfolds in the unusual afternoon darkness.

Seckendorf and Mendelsohn "talked about shooting in color for about a minute," the cinematographer relates. "We saw *Judy Berlin* as a timeless tale, and black-and-white helped us deal with things such as the orange-and-blue logos on a FedEx truck, which in color would have pegged the film to a certain time period. Black-and-white also helped make the location more generically suburban."



The 35mm feature had a budget of under $200,000, so lighting gear was limited in both size and quantity. "In order to add some depth to our night exteriors, we placed many of our biggest lighting units — a half-dozen 4K Pars — as far as a half-mile from the camera, using all the cable we could find," Seckendorf explains. "Not being able to open up night exteriors with light is one of the curses of independent features. Without that depth, the audience never

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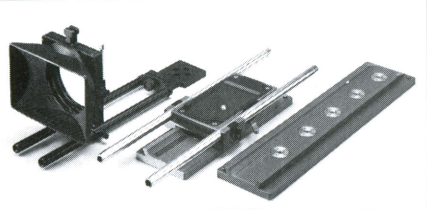

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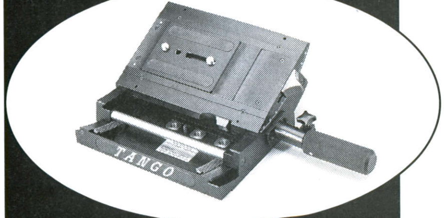

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feels as if they are really *there*."

Seckendorf's tests led him to decide that Ilford emulsions would best suit the production. "For the eclipse scenes, I knew we were going to have huge areas that would be two to five stops underexposed, and that there would be nothing in those scenes brighter than an 18-percent gray card," he explains. "The Ilford HP 5 and FP 4 films held the richness throughout a wider contrast range in the toe [or low end] of the film's characteristic curve."

The biggest challenge for Seckendorf was creating the look of the eclipse's first hour, during which a good deal of daylight still had to be evident. This was accomplished through a complex and constantly varying combination of filters. "Eric's idea for shooting the early part of the eclipse was to do day-for-night in a nontraditional way, which meant including the sky," the cameraman says, partially explaining why the filtration became so involved. "However, to make the eclipse believable, we had to bring the sky down somewhat in tonality."

He eventually settled on a combination of Wratten 23 (medium red) and 56 (medium green) filters, which were used together for the daylight eclipse scenes in which the actors' faces were prominent. "If the actors occupied a small part of the screen and we had a blue sky, the red filter alone was great," Seckendorf says. "It made the beautiful clouds pop, but in medium shots and close-ups the red rendered the faces too pasty." The addition of the green filter helped remedy the problem. (This Wratten combination has long been a popular solution for monochrome day-for-night work, as Seckendorf learned from veteran cinematographer Sol Negrin, ASC, who consulted on the film.)

Others filters were also required on the project. To find a way to tone down just the bright daytime sky, Seckendorf consulted with Ira Tiffen, vice president in charge of research and development for Tiffen Manufacturing, the Long Island-based filter company (whose latest new tools were detailed in the August '99 installment of this column). Tiffen made Seckendorf a special graduated ND 5 filter that arced upward toward the two top corners of the frame, thus covering the sky in a typical shot.

Shooting the daylight eclipse scenes proved even more complicated, and sometimes involved as many as seven or more filters. Seckendorf recalls, "A typical filter pack for the static daytime eclipse shots include the red and green Wrattens; the special Tiffen curved, graduated ND 5; a straight soft-edged graduated ND 3, if I needed the sky even darker; a straight, hard-edged partial ND 6 to bring the ground down more; some light SupraFrost diffusion; and, occasionally, a polarizer."

A full ND was occasionally added over all of these filters because Seckendorf wanted to lend certain shots the shallow depth of field of a wide-open lens — a look that all of the aforementioned filtration sometimes wouldn't produce outdoors. He shot with Zeiss primes mounted on an Arriflex BL-4 throughout the production.

Naturally, the curved, graduated ND used to tamp down the value of the daytime sky required the filmmakers to keep their camera stationary. "We did one shot with a slight pan to see if we could get away with it, and the move looked really lame," Seckendorf admits. "If we needed to move the camera, we'd leave the special filter off and make sure the daytime sky was out of the frame or blocked by trees."

First assistant cameraman Douglas Hart was "the filter genius, who wrangled all different sizes and shapes of filters over the lens and into a matte box," Seckendorf notes with admiration. "I would say, 'I need the special Tiffen curved ND, the Wratten 23 and 56, SupraFrost, this and that ND grad, this full ND and a Pola,' and somehow, just five minutes later, Doug would have them all stuffed in there." ■

Books in Review

by Ray Zone

Sin in Soft Focus:
Pre-Code Hollywood
by Mark A. Vieira
Abrams
240 pps, Hardcover $39.95
ISBN 0-8109-4475-8

During the pre-Code era, from March of 1930 to July of 1934, Hollywood adopted the restrictive Production Code, yet flouted its prohibitions against depictions of lust and violence. Portrait photographer and film historian Mark Vieira has lovingly assembled a unique collection of stills and photos from this fascinating period, and has penned a comprehensive history of the films and studios that challenged the "Studio Relations Committee" (SRC) and the 1930 Code itself.

Here is a real "coffee table" treatment of the subject told through 275 photographs and illuminating text. Since only about 30 percent of the pre-Code films survive in their complete form, the art of this era is largely preserved in fastidiously composed and beautifully lit stills.

While reading this book, I dug out my vintage copy of the ASC's "Cinematographic Annual 1930" in order to examine its "pictorial section," which contains work by many of the same photographers featured in Vieira's book. Cinematographers and publicity "stills men" of the day favored a soft look with diffused lighting. This visual style is an outgrowth of the pictorial style popularized by influential photographer Alfred Stieglitz early in the 20th Century, and resulted partly from the latitude of panchromatic film coming into use at that time, which made many of the subtleties of this lighting style possible.

Whenever possible, author Vieira credits the makers of the many gorgeous photographs published in this book. Some of the cinematographers whose work is showcased include ASC legends Fred Archer, Elwood Bredel, William Daniels, Lee Garmes, Harold Rosson and Joseph Walker. Also on display is the glamorous work of accomplished still photographers such as Max Munn Autry, Otto Dyar, Bert Longworth, Eugene Robert Richee, Harvey White, Eugene Robert Richee and others.

Vieira has arranged his pre-Code history in chronological order, and discusses the individual studios and their films progressively. The book also features interesting portraits of the men who facilitated Hollywood's self-regulation, including Will Hays, director of the Motion Picture Producers and Distributors Association (MPPDA), and Jason S. Joy, director of the Studio Relations Committee. The role that MGM production chief Irving Thalberg played in co-authoring of the Code is also examined.

In the chapter "Pictures That Talk (Rudely)," the author examines the new level of censorious realism that the advent of sound brought to motion pictures. The 1929 Fox film *The Cock-eyed World*, a talking sequel to the silent *What Price Glory* directed by Raoul Walsh, "had something to offend everyone," states the author, and "demonstrated that talking pictures could be offensive in ways that silent films could not have been. Dialogue now gave films a literal, immediate quality."

Serious students of the era can consult a series of appendices, the 1927 list of "The Don'ts and Be Carefuls," the 1930 Code itself, and a reference chart of 100 pre-Code films.

Another recent book, *Pre-Code Hollywood* by Thomas Doherty (Colum-

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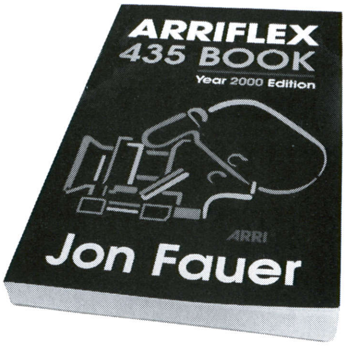

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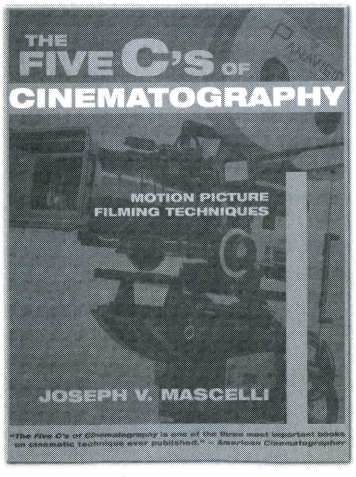
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Paperback, 8 ½" x 11", 251pgs.

bia University Press: 1999), would make an excellent companion piece to Vieira's fine volume.

O.K. You Mugs: Writers on Movie Actors

Edited by Luc Sante
and Melissa Holbrook Pierson
Pantheon
284 pps, hardback ($24)
ISBN 0-375-40101-6

The intimate relationship between movie viewers and actors is amusingly addressed in this diverse collection of essays, which focus primarily on character actors. These are the players who, in the words of the editors, "are so irreducibly themselves [that] they can be inserted anywhere."

In this "proper investigation of the screen's ordinary Joes," the personal approach is taken "to listen for the whisper that emanates from the theater's speakers, but seems intended for one's ears alone." Poetic form is exploited by Jonathan Williams in the chapter "Endless Melody Starring," which recasts screen greats as 20th-century poets. The confessional form is vividly employed by Charles Simic in "With Gene Tierney in Paris," a recollection of his adolescent ardor for the actress. "We met," he states, "in an old cavernous theater on Avenue des Ternes."

Dave Hickey's observations in "Mitchum Gets Out of Jail" are especially colorful. "Mitchum is always playing a presence," he states, "a moral creature, incarcerated by the text, and when it works, he burns a hole in the screen, invests the vacant platitudes of professional screenwriting with something dark and strange. . . " After seeing Mitchum in *Thunder Road* (1958) as a youth, Hickey decided "that if I only dated women who thought Robert Mitchum was cool, I would be okay — and amazingly enough, as long as I did, I was, and still am."

Luc Sante's "Rogues Gallery" is a concise roll call of great character actors, with a single paragraph devoted to each. Sante captures the essence of each person succinctly: "Keenan Wynn always stepped into a picture like a 30-year professional taking over a crime scene from the rookies." Or: "Richard Conte was the tuna with good taste."

"Barbara Payton: A Memoir," by Robert Polito, is an evocative piece in which the author recalls meeting a dissolute Payton when she was a regular at Hollywood's Coach and Horses tavern, where his father tended bar in the early 1960s. Payton had appeared in *Kiss Tomorrow Goodbye* (1950) and *Bride of the Gorilla* (1951), among other films, had provoked a scandalous affair with Tom Neal and Franchot Tone, and by the 1960s was surviving as a prostitute. Of Payton's onscreen image, Polito observes, "She does not so much inhabit a character as impersonate a starlet. . . a doll dropped into a scene to insinuate sex."

Geoffrey O'Brien, in "Dana Andrews, Or The Male Mask," writes, "He constantly risks being mistaken for some other male actor. . . "

"Sometimes Warren Oates got lost," writes Melissa Holbrook Pierson in another section. "You knew he was in the movie, but 20 minutes into it you were still looking for him."

This tome features a promenade of other great character actors as well, ranging from J.T. Walsh and Sidney Greenstreet to Dan Duryea and Elmer Fudd. "As they reappear in one film and then another," the editors note, "it is as if they are returning in our very dreams." ■

Review copies of books may be sent to Ray Zone in care of AC*'s editorial department, located at 1782 N. Orange Dr., Hollywood, CA 90028.*

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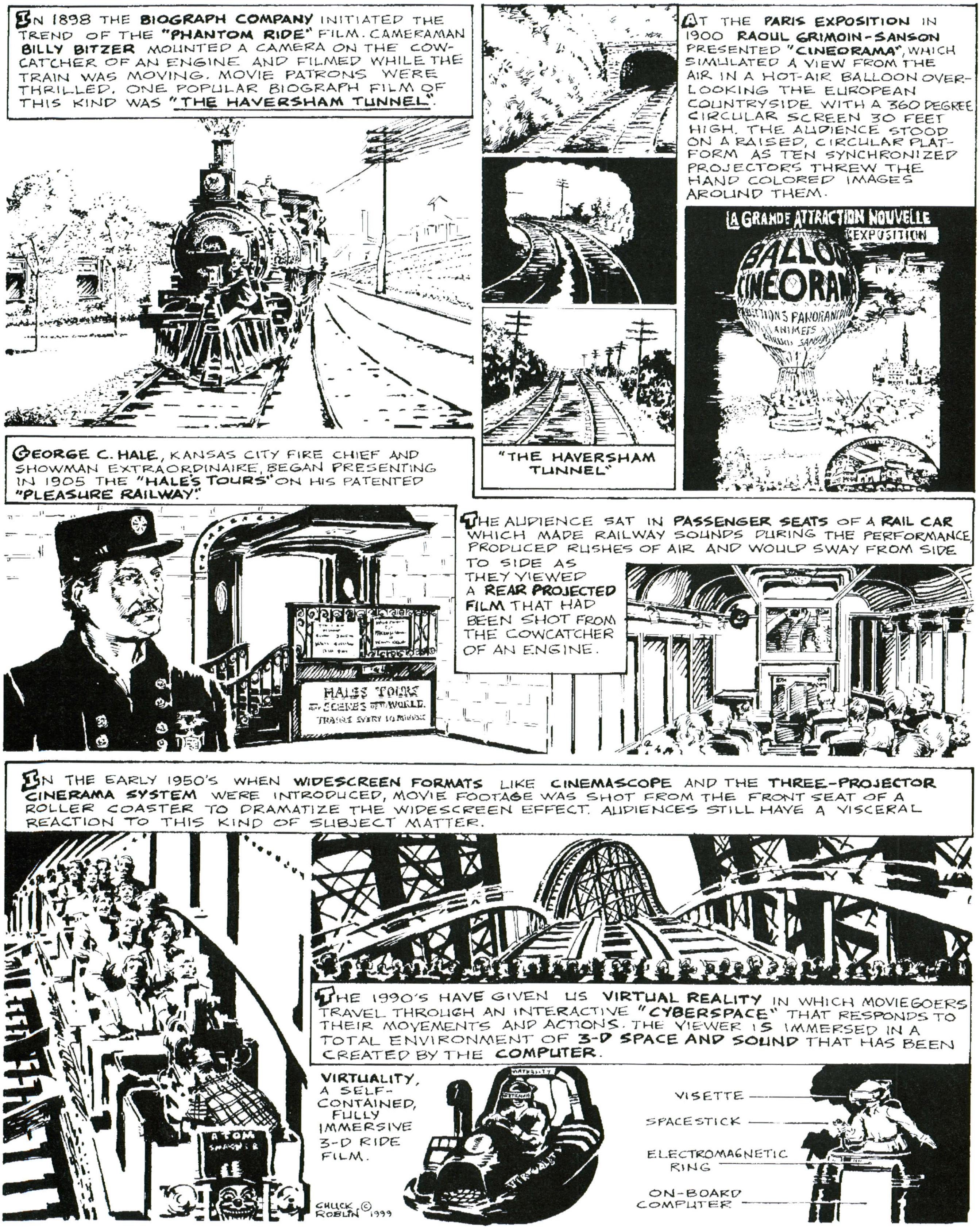
THE RIDE FILM

by Ray Zone & Chuck Roblin


IN 1898 THE BIOGRAPH COMPANY INITIATED THE TREND OF THE "PHANTOM RIDE" FILM. CAMERAMAN BILLY BITZER MOUNTED A CAMERA ON THE COWCATCHER OF AN ENGINE AND FILMED WHILE THE TRAIN WAS MOVING. MOVIE PATRONS WERE THRILLED. ONE POPULAR BIOGRAPH FILM OF THIS KIND WAS "THE HAVERSHAM TUNNEL".
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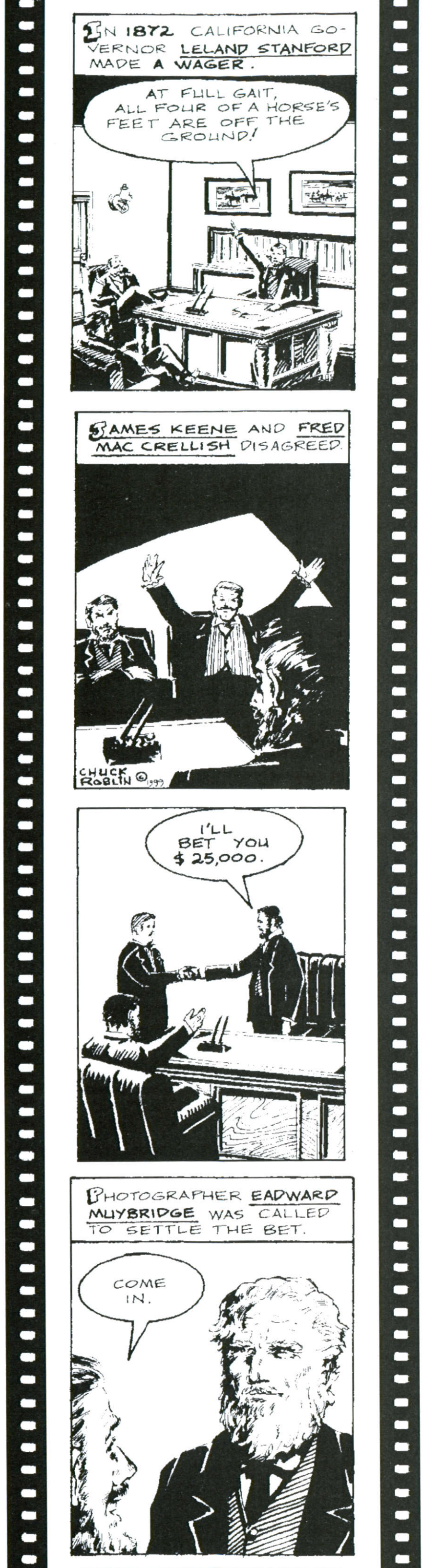
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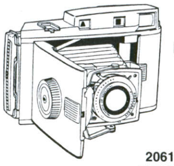

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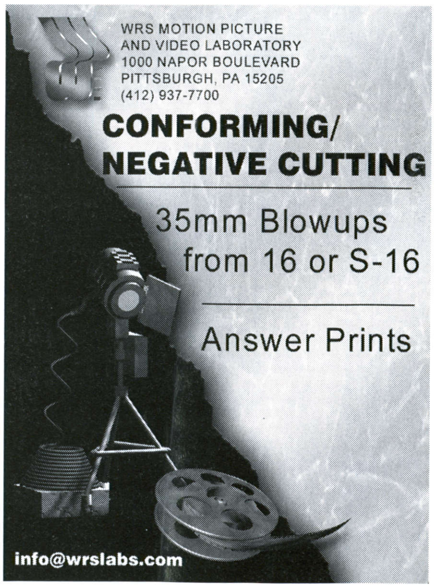

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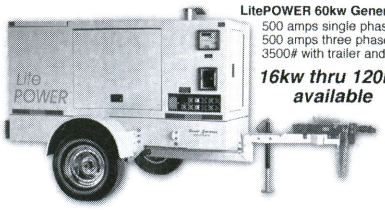

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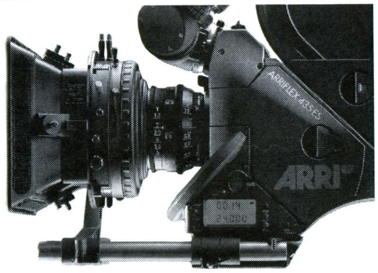

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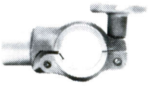

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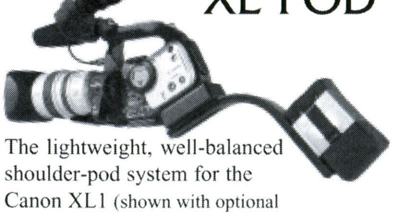

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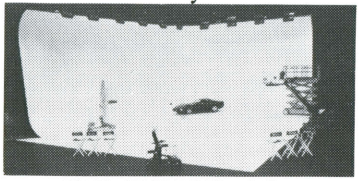

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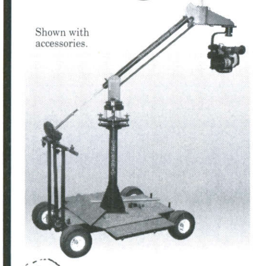

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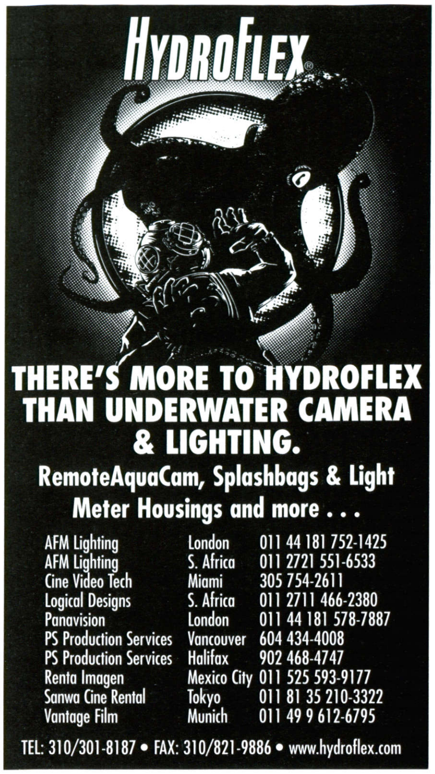
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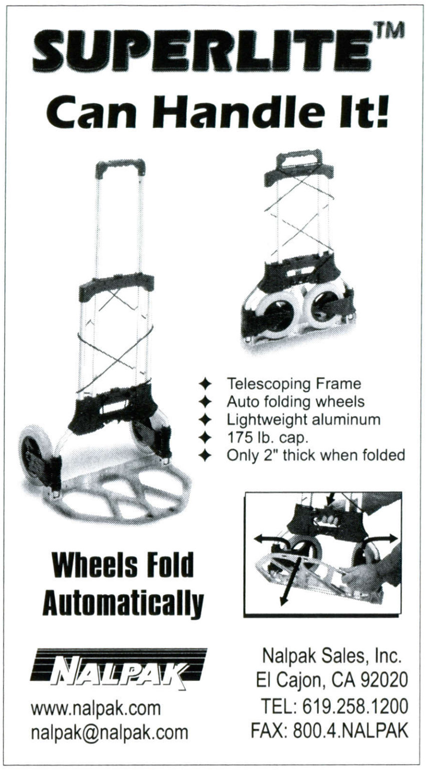
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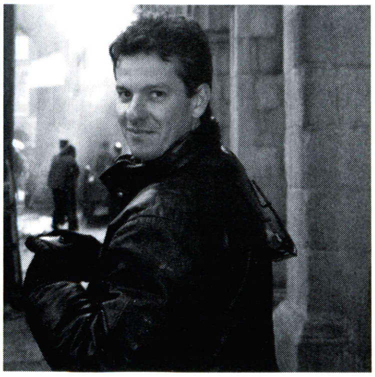
From the Clubhouse

Bing Sokolsky, Roland "Ozzie" Smith and Peter Anderson have been inducted into the Society's membership.



Bing Sokolsky was raised in the New York art world. His father, Melvin, a distinguished fashion photographer and commercial director, frequently took him to the metro area's many museums. The works of art left an indelible impression upon him and would later inspire his cinematographic style.

"I think a lot of the best cinematographers you see base their work on the composition and lighting of the masters," Sokolsky stated in *American Cinematographer* in 1994.

Sokolsky began his career as second assistant and loader under such noted cinematographers as Billy Williams, BSC, Allen Daviau, ASC and Steven Goldblatt, ASC. He graduated to the rank of first assistant and worked with Jorden Cronenweth, ASC for 3½ years. He eventually stepped into the director of photography role and subsequently has been nominated for four ASC Awards for best television cinematography. In 1994, he garnered two nominations in the same year for the *N.Y.P.D. Blue* pilot and the "True Confessions" episode (see *AC* May '94). Three years later he followed up with a nomination for "The Godfather" episode of the series *High Incident* (*AC* May '97). He joined the movie of the week *Oliver Twist* five days into production, and his spot-on photographic efforts earned him another award nomination in 1998 (AC May '98).

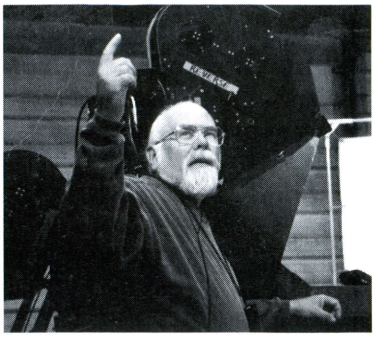
Sokolsky has also lent his eye such series as *JAG* and *The West Wing*, the telefilm *Chance of Snow* and an HBO feature, *Black Cat Run*.

Roland "Ozzie" Smith grew up around cinematography, having learned the mechanics of the art from his father, Harkness Smith, ASC. While working in the MGM camera department, he also had an impressive amount of tutelage from prominent Society fellows Karl Freund, James Wong Howe, George Folsey and Robert Surtees.

In 1994, Smith received the ASC Award and an Emmy Award for his work on *Dr. Quinn, Medicine Woman*. The 16mm production presented many technical challenges for Smith, who was required to maintain a sharp, consistent look. He had to shy away from high-speed film to avoid grain problems inherent with 16mm while working with a camera that lacked dual-pin registration steadiness. He also opted not to use lens diffusion in order to alleviate any potential grain during telecine work.

Some of Smith's many credits include the television series *Hunter*, *The Fall Guy* and *The Oldest Rookie* and the features *Street Justice*, *The New Adventures of Pippi Longstocking* and *Savage Land*.

Alternative film formats, special effects and new photographic technologies are the forte of cinematographer **Peter Anderson**. Having previously served as staff director of photography and supervisor of the Special Photographic Effects Department for Walt Disney Studios and as the technical director and head cameraman for Universal Studios' Hartland Special Photographic Effects Facility, Anderson has been involved with an extensive number of feature films, special venue films, television programs and commercials.



He has photographed visual effects for features such as *Close Encounters of the Third Kind*, *Flash Gordon* and *The China Syndrome*, and was the special effects director of photography for many other films, including *Tron*, *My Science Project*, *The Hunt for Red October* and *Turbulence*.

His television special effects photography work can be seen in such classic series as *The A-Team*, *Battlestar Galactica* and *Buck Rogers*.

Anderson has called upon his extensive amount of experience in large-scale and alternative film formats for numerous special venue and theme park-related films. He used a 65mm 3-D format for Michael Jackson's heroic space opus *Captain Eo* and for the special attraction *Muppet Vision 3-D*. His 35mm, VistaVision and 65mm photography and motion control enhanced the finale of EPCOT Disney's Horizons attraction. As the 3-D director of photography on *Terminator 2 3-D* (*AC* Aug. '96), Anderson elevated the *Terminator* cyborg to a new technological level for interactive special venue films. ■

Photos courtesy of Bing Sokolsky and Peter Anderson. Ozzie Smith photo by Douglas Kirkland.

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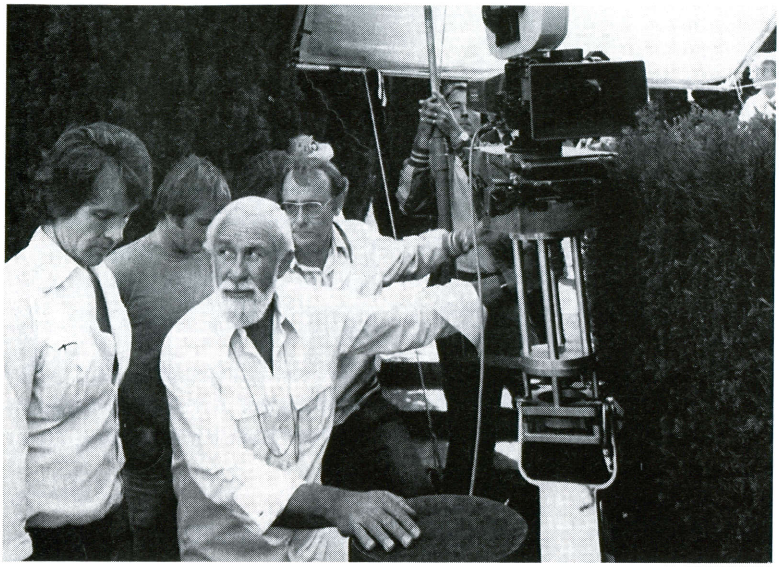

Two future ASC honorees, Warren Beatty and William A. Fraker, ponder a setup during production of the 1978 comedy *Heaven Can Wait*.

Just getting *Heaven Can Wait* onto film was a feat of resilience for the production's cast and crew, but the effort was well worth it. The 1978 feature paired two distinguished filmmakers, director/star Warren Beatty and cinematographer William A. Fraker, ASC, and racked up nine Academy Award nominations.

"I can recall at least three times when I wanted to quit," said Fraker, speaking about the taxing production in the May 1979 issue of *American Cinematographer*. "I'm glad that I didn't." Fraker, the 1999 ASC Lifetime Achievement Award recipient (see page 38, this issue), now rates *Heaven Can Wait* among his personal favorites.

Beatty's presence is imprinted throughout the film. The multi-faceted artist produced, co-directed (with Buck Henry), co-wrote (with Elaine May) and starred in the picture, which updated the 1941 film version of Harry Segall's play, *Here Comes Mr. Jordan*. Beatty traded that film's boxing backdrop for a pro football milieu, and starred as Los Angeles Rams quarterback Joe Pendleton. After being involved in a car accident, Pendleton is prematurely escorted to heaven by an inept celestial messenger (Buck Henry) before realizing his Super Bowl dreams. The archangel Mr. Jordan (James Mason) tries to reverse the error by restoring Joe to life in the body of a wealthy industrialist who, only moments earlier, was murdered by his wife (Dyan Cannon) and secretary (Charles Grodin). Determined to play in the Super Bowl, a reinvigorated Joe buys the Rams, while his wife and secretary renew their attempts to bump him off.

The fantasy/comedy earned Oscar nominations for Beatty's acting, writing and directing, and one for Fraker's high-key cinematography. In the wake of their successful collaboration, both filmmakers moved on to make other memorable films, while the Rams eventually moved to St. Louis.

Since his motion picture debut in Elia Kazan's *Splendor in the Grass*, Beatty has earned 14 Oscar nominations in four different categories from the Academy of Motion Picture Arts & Sciences. His stellar career and commitment to filmmaking have now earned Beatty the 1999 ASC Board of Governors Award, placing him in elite company — he is only the tenth recipient of this honor in the Society's 80-year history.

Says ASC president Victor J. Kemper, "This award is reserved for individuals who have made extraordinary contributions to the art of filmmaking. Warren Beatty has set high standards for artistic achievement as an actor, director, writer and producer. Our members have great respect and affection for Mr. Beatty because of his accomplishments, and also because he is a solid citizen of our community."

Beatty made a real bang in the industry during 1967, when he played loose-cannon bankrobber Clyde Barrow in *Bonnie and Clyde*, the first film he also produced. The graphic feature set a new standard for film violence and piled up nine Oscar nominations, including one for Best Picture. Cinematographer Burnett Guffey, ASC earned an Academy Award for his expert camerawork.

During his career, Beatty has worked with a number of exceptional cameraman, including ASC members Vilmos Zsigmond (*McCabe and Mrs. Miller*), Gordon Willis (*The Parallax View*) and John A. Alonzo (*The Fortune*). In 1981, Beatty teamed with Vittorio Storaro, ASC, AIC on *Reds*. This epic tale about the Russian Revolution earned Oscars for Beatty's direction and Storaro's photography, as well as numerous other nominations, including one for Best Picture. The duo subsequently worked together on *Ishtar* (1987), *Dick Tracy* (1990) and *Bulworth* (1998), with Beatty directing the latter two films.

In 1991, Beatty received a Best Actor nomination for his role as gangster Benjamin Siegel in the Barry Levinson film *Bugsy*, which he also produced. Allen Daviau, ASC earned an Oscar nomination for his expert photography.

"It isn't a coincidence that our members keep winning awards for artistic achievements on films that are either directed or produced by Warren Beatty," Kemper notes. "He recognizes and appreciates the potential of visual storytelling, and he gives cinematographers the creative latitude they need to help him realize his goals."

— Douglas Bankston

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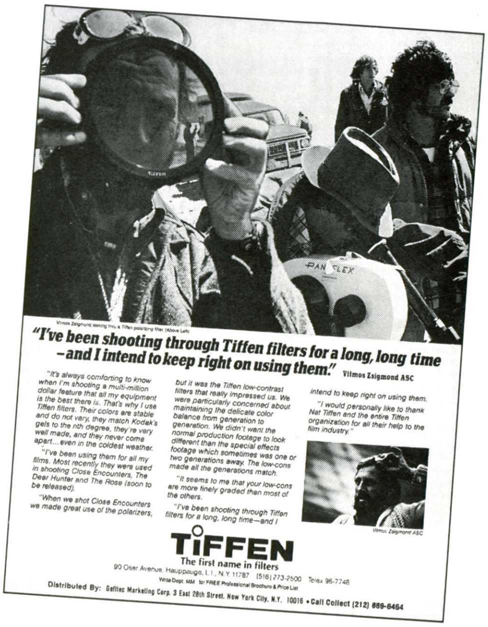

Vilmos Zsigmond seeing thru a Tiffen polarizing filter. (Above Left)

"I've been shooting through Tiffen filters for a long, long time —and I intend to keep right on using them." Vilmos Zsigmond ASC

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American Cinematographer 1979

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